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ORIGINAL COMMUNICATIONS.

Art. I.—*On the Climate of the Valley of the Sacramento, California.*

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On a former occasion, allusion was briefly made to a few of the peculiarities of the climate of California, and the diseases referable to them. Some of these deserve a more particular notice, and others, which the space then allotted to us excluded, are full of interest to the physician, and possess an important bearing upon the sanatory condition of the inhabitants.

A summary statement of the Meteorology of a portion of the State,—an abstract of the observations of the past year,—may likewise prove useful for general reference, and afford, at a glance, a more accurate knowledge of the true characters of the climate, than could be effected by the most elaborate review.

Much has been written latterly in elucidation of the climatic features prevailing in this State, with various degrees of correctness, and yet, it would seem that erroneous views are still conjectured of many of its most important and interesting peculiarities. Indeed, it is not without a show of reason, that some incredulity should be entertained by those unacquainted with the subject, as to the ingenuousness of

some of the statements which have been made; for, so beautiful is the picture, that what is in reality but a faithful portraiture, appears like a sketch of fancy or the richly-embellished vision of the enthusiast.

It is not the purpose of the present article to present a detailed view of the climate of California. A general examination and analysis of the meteorological observations in our possession, pertaining to the locality of Sacramento, their comparison, and the deductions growing out of the results thus obtained, together with such therapeutical inferences as suggest themselves, having a more or less intimate relation to the climate, will alone be attempted.

The location of the City of Sacramento, in the valley of the same name, has heretofore been described in an article upon this subject, as well as a general yet sufficiently succinct account of the topography of the valley. No further allusion is required at this time.

It is scarcely possible, in a series of observations extending through a single year, to afford an infallible, or absolutely exact view of a climate. Seasons are frequently so variant, and departures from a uniform standard so great in any single, isolated year, that perfect accuracy is not attainable. In general, however, the mean temperatures of a place do not vary much; and though the mean of a series of observations, extended through a large number of years, might alone satisfy the demands of an exact and rigid science, the approximation will be sufficiently near to subserve the purposes of the present communication.

The meteorological observations from which the following tables are deduced, were taken by myself, and with such precautions as seemed best calculated to obviate the errors which too often creep in to destroy the accuracy of thermometric investigations. We shall not attempt a thorough and lengthy analysis of all the meteorological elements of which these observations are comprised. A general summary will be presented, with such explanatory remarks and reflections as shall seem best adapted to subserve the purposes

of the present undertaking, to wit, the proper appreciation of the climatic features of a portion of the valley of the Sacramento.

The subject is one full of interest,—the topic embraced in it is attractive in almost every aspect; and as the eye delights to dwell upon the rich and beautiful landscape spread out before it in the gorgeous magnificence of nature's own device, so the mind of the Californian is wont to regard with peculiar pleasure the real charms, the intrinsic loveliness of the climate of the State, and linger with the enthusiasm of fascination upon the pleasing reflections with which its contemplation is associated. Without attempting to invest the subject with the extravagant embellishments of fancy, it shall simply be our object to lay before the reader the outlines of the climate for the past year, and leave the groundwork to be supplied by himself.

The table on pp. 12 and 13 exhibits the mean monthly results of the observations from April, 1854, to March, 1855, inclusive. A few of the more striking peculiarities of this table require a casual notice.

The highest mean monthly temperature for the year, calculated from four daily observations, viz., at sunrise, meridian, sunset, and 10 P. M., was 75°70, in July; the mean maximum temperature of the same month having been 91°32, and the extreme maximum 103°. July therefore is shown to have been the hottest month in the year. The coldest month was January; the mean of four daily observations having been 45°23, the mean maximum temperature 53°88, and the extreme maximum 68°. The extreme range of the means of these two months, therefore, was 30°47, and between the absolute extremes of the year, 79°; or from 103° in July to 24° in January.

Next to July, in exaltation of temperature, was August,—the mean monthly temperature being 70°33, or a little more than 5° less than July. In the extreme of heat, there was a difference of but one degree of Fahr.,—the maximum of August having been 102°.

METEOROLOGICAL OBSERVATIONS FOR SACRAMENTO, Cal., from April, 1854, to March, 1855, inclusive; Lat. 38°34′40″ N., Long. 121°40′5″ W.

1854	THERMOMETER. Four Daily Observations.					EXTERNAL THERMOMETER. Extremes of Four Daily Observ.								BAROMETER.				ATTACHED THERMOMETER.			THERMOMETROGRAPH.							HYGROMETER.				
						Maximum.				Minimum.													Extremes of Month.				Dew Point		Moisture in air.		
	Sunrise.	Meridian.	Sunset.	10 P. M.	Monthly mean.	Sunrise.	Meridian.	Sunset.	10 P. M.	Sunrise.	Meridian.	Sunset.	10 P. M.	Sunrise.	Meridian.	10 P. M.	Monthly mean.	Sunrise.	Meridian.	10 P. M.	Mean max.	Mean min.	Mean range.	Maximum	Date.	Minimum.	Date.	Maximum	Minimum.	Maximum	Minimum.	Mean.
April	53·20	69·12	62·38	57·96	60·66	62	79	74	68	47	54	53	50										84	16th	47	9th, 22d 26th					
May	50·11	69·34	64·38	57·66	60·48	58	79	76·50	69	42	55	51	47	29·98	29·94	29·92	29·94	66·38	69·80	69·33	72·25	49·93	22·32	81	17th	42	17th	58·50	32	·683	·295	·460
June	54·04	76·03	72·05	65·33	66·86	66	87	84	78	46	67	62	50	29·96	29·95	29·93	29·94	66·70	75.00	72·70	81·05	54·04	26·97	95·50	10th	46	2d	65	41	·802	·354	·537
July	61·25	88·74	80·17	74·88	75·70	73	97·50	92	83	51·50	72	67	61	29·90	29·95	29·92	29·92	63·00	63·00	80·87	91·32	61·25	30·22	103	13th	51·50	20th	68·50	43	·849	·243	·507
Aug.	55·90	81·90	76·25	67·25	70·33	69	96	95	84	49·50	72	68	58	29·95	29·95	29·93	29·94	73·42	75·35	77·52	87·00	55·90	31·09	102	16th	49·50	2d	68	45	·609	·254	·460
Sept.	51·38	76·33	70·63	62·70	65·26	61	86	87	72	47	68	64	55	29·93	29·97	29·92	29·94	68·63	70·73	73·33	81·85	51·38	29·83	94	14th	47	16th	60·50	44	·691	·252	·493
Oct.	51·32	71·03	68·25	59·67	62·56	62	88	86	75	46	62	60	52	30·00	30·00	30·00	30·00	68·83	70·83	73·00	73·83	52·38	21·54	93	2d	46	14th & 27th	63	31	·905	·260	·568
Nov.	44·21	65·25	63·13	54·53	56·78	52	70	69	61	39·50	58	57	46	30·09	30·06	30·07	30·07	62·16	65·20	65·80	68·13	44·21	23·85	74	1st & 6th	39·50	10th	50·97	26·96	·686	·306	·404
Dec.	37·25	55·12	53·90	47·41	48·42	52·50	56	54	57	28	50	50	36	30.16	30·16	30·13	30·15	56·03	62·58	61·54	59·04	37·25	21·79	69	1st & 17th	28	30th	48	25·9	·813	·293	·539
1855																															
Jany.	38·32	49·55	49·19	43·06	45·23	49	63	64	55	24	39	38	32	30·07	30·07	30·06	30·07	31·20	53·35	53·80	53·88	38·32	17·17	68	31st	24	6th	49·9	25·9	·916	·308	·634
Febr.	42·35	60·10	57·57	51·60	52·90	54	67	64	59	32	53	48	41	30·05	30·05	30·04	30·05	56·35	58·60	59·28	63·02	42·35	20·66	71	16th	32	21st & 24th	58·8	27	·959	·323	·559
Mar.	48·59	63·80	59·25	54·84	56·66	57	73	69	63	37	50	46	42	30.01	30·01	29·96	29·99	61·64	62·48	63·00	66·50	48·60	18·03	76	25th	37	17th	60·4	36	·939	·437	·633

* Last eight days of May.

METEOROLOGICAL OBSERVATIONS FOR SACRAMENTO, Cal., from April, 1854, to March, 1855, inclusive; Lat. 38°34′40″ N., Long. 121°40′5″ W.—[*Continued.*

1854	PSYCHROMETER.						WIND. Four Daily Observations.—Direction.														FORCE OF WIND.								WEATHER.											
	5 to 6½ AM		3 to 3½ PM		10 P. M.		N. to E.				E. to S.				S. to W.				W. to N.				Sensible to Mod.				Brisk to Violent.				Clear or mostly so.				Cloudy or mostly.						Rain.		Fogs.	
	Mean dry bulb.	Mean wet bulb.	Mean dry bulb.	Mean wet bulb.	Mean dry bulb.	Mean wet bulb.	Sunrise.	Meridian.	Sunset.	10 P. M.	Sunrise.	Meridian.	Sunset.	10 P. M.	Sunrise.	Meridian.	Sunset.	10 P. M.	Sunrise.	Meridian.	Sunset.	10 P. M.	Sunrise.	Meridian.	Sunset.	10 P. M.	Sunrise.	Meridian.	Sunset.	10 P. M.	Sunrise.	Meridian.	Sunset.	10 P. M.	Sunrise.	Meridian.	Sunset.	10 P. M.	Clear all day.	Cloudy all day.	Days.	Inches.	Days.	Inches.
April							5	4	5	3	6	1	4	3	9	12	12	15	10	12	10	10									14	19	17	21	16	11	13	9	10	3	11			
May							2	1	3	1	20	11	11	13	5	12	14	14	4	7	3	3	20	22	19	19	11	9	12	12	20	24	15	16	11	7	16	15	17	3	4			
June							0	0	0	0	21	10	21	20	7	10	7	9	2	10	2	1	26	23	24	28	4	7	6	2	19	25	26	28	11	5	4	2	19	2	3	0·50	4	
July							0	0	0	0	20	9	19	20	8	13	10	9	3	9	2	2	28	28	27	26	3	3	4	5	26	27	30	30	5	4	1	1	23	0	0		0	
Aug.	58·61	54·54	88·90	70·64	67·38	59·25	0	0	0	0	25	12	17	16	5	14	12	15	1	5	2	0	27	24	25	26	4	7	6	5	28	30	29	30	3	1	2	1	28	0	1		2	
Sept.	53·86	50·66	80·16	64·96	62·16	56·16	0	1	0	0	21	15	17	20	9	11	11	10	0	3	2	0	27	25	25	22	3	5	5	8	25	28	26	30	5	2	4	0	18	0	1	sp'kl	2	
Oct.	52·64	49·41	73·19	60·03	60·19	54·99	0	2	0	0	20	16	16	14	5	6	7	12	6	7	8	5	28	26	28	28	3	5	3	3	17	20	16	25	14	11	15	6	8	4	10	1·03	5	
Nov.	45·56	43·26	67·56	56·50	54·53	49·92	3	3	4	3	9	16	7	9	4	2	5	6	14	15	14	12	28	26	27	29	2	4	3	1	24	27	25	27	6	3	5	3	20	2	4	0·67	7	0·0163
Dec.	38·77	36·51	58·45	49·80	47·32	44·19	0	4	1	1	13	9	15	15	1	3	2	2	17	15	13	13	28	23	28	29	3	8	3	2	18	19	22	23	13	12	9	8	11	5	5	2·20	11	0·1243
1855																																											
Jany.	38·84	37·13	52·87	46·51	42·97	40·51	2	10	9	2	10	10	12	16	7	3	3	2	12	8	7	11	28	25	26	28	1	4	3	1	10	14	13	17	21	17	17	13	7	11	10	1·40	12	0·081
Febr.	45·25	42·53	61·07	52·42	51·85	47·60	3	2	6	7	8	6	5	4	5	10	9	6	12	10	8	11	24	21	23	23	4	7	5	5	17	14	16	18	11	14	12	10	13	7	12	4·21	3	
Mar	50·90	48·83	65·00	56·42	55·16	52·03	7	3	2	4	10	8	9	11	8	11	11	10	6	9	9	6	29	24	27	28	2	7	4	3	10	12	14	23	21	19	17	8	5	5	12	3·672	1	

Dividing the year into its appropriate seasons of spring, summer, autumn and winter, we find the mean temperature to have stood as follows: for the three summer months we have a mean, by four daily observations of the thermometer, of 70°96; the mean maximum temperature being 86°45, and the mean minimum 57°06.

For the autumn months the mean temperature was 61°53, and the maximum and minimum extremes equal to 74°60 and 49°32, respectively.

In the winter months, ending with February, we find the mean temperature to have been 48°85; the mean maximum being 58°64 and the mean minimum 39°30.

The incompleteness of the tables for the three spring months, for a single year, excludes them from the comparison.

It is thus shown, that, between the summer and fall months, there was a mean difference in temperature of 9°43, and between the fall and winter months, a difference of 12°68; the extreme variation between the means of the three hottest and the three coldest months, — between winter and summer—being only 21° 21.

In this respect the climate compares favorably with some of the most favored climates in the world. By contrasting the results just obtained with the reported meteorological statistics of some of these countries, we find that, at Nice for example, the mean difference between the summer and autumn was merely a degree greater than at Sacramento; between the autumn and winter months 0°92 greater; and between the mean temperatures of winter and summer 2°36 greater, or 23°57 for Nice and 21°21 for this city. In Italy, the southwest of France, and the southeast of France, a similar relation is ascertained to exist—the advantage, in each instance, being on the side of Sacramento. The following comparative statement of mean temperatures, during different seasons of the year, of several localities frequently resorted to by the valetudinarian, together with the same results for Sacramento, may not be without interest,

and is certainly highly flattering to the climate of California :—

	Mean Winter Temperature.	Mean Summer Temperature.	Mean Autumn Temperature.
Sacramento	48·85	70·96	61·83
Marseilles	45·50	72·50	60·08
Rome	48·90	72·16	63·96
Naples	48·50	70·83	64·50
Florence		74·00	60·70

The subjoined statement exhibits the mean difference between the summer and winter :—

	Mean Difference between Summer and Winter.
Sacramento	21·21
Nice	23·57
Southwest of France	26·42
Southeast of France	29·26
Italy	27·56

By an examination of the above tables it will be seen that Sacramento possesses several very important advantages over the most favored of these localities. The statement of the means for Sacramento is that obtained from four daily observations of the thermometer—the sunrise observation being represented by the minimum, as noted by the self-register thermometer. Such is stated not to have been the case in the other localities, and this fact alone adds much to the favorable aspect of the comparison, so far as relates to Sacramento.

If the means of the maximum and minimum are used, the general result will not be essentially varied. It is not intended to convey the impression that a like similitude exists between these climates in their minutest details. In the monthly extremes of temperature, and their difference during each separate month, as well as in the daily range of the thermometer, a wide discrepancy is sometimes observed.

Compared with the climate at San Francisco, these places present a yet more remarkable contrast, and some of these must yield the palm, for equability of annual temperature

as well as for that of successive months, to the busy city. In the monthly extremes the contrast is not so favorable to San Francisco; though it is proper to state that the minimum extreme at San Francisco, from which our results are taken, was that given by the self-register thermometer, and consequently the range is greater than when the observations are confined to the day, as in the case of the other localities with which we have compared it. The comparison exhibits the following results, viz.: the mean difference between the summer and fall months 0°31; between fall and winter, 5°09; between the hottest and coldest seasons (between winter and summer), 5°40. In San Francisco the mean summer temperature was 60°02, mean autumn, 50°71, mean winter, 54°62, mean spring temperature, 56°87. A reference to the tabular statement given above of these temperatures in other localities will at once and incontestibly establish the superior equability of the seasons at San Francisco. The following will place the subject in a still stronger light;—

Table of the Variation of Monthly Means, calculated from the Mean Maxima and Minima.

	San Francisco.	Madeira.	Nice.	Italy.
January to February....	2·93	0·80	3·07	5·50
February to March.....	2·67	0.90	2·72	4·33
March to April,.....	2·67	0·80	4·20	6·21
April to May.....	2·99	2·50	7·40	7·63
May to June.....	1·31	1·80	5	5·80
June to July.....	2·81	3·70	4·25	5·12
July to August.....	0·91	1·80	2	0·82
August to September....	0·16	0·10	4	4·30
September to October....	0·21	3·60	9·50	9·53
October to November....	2·82	3·60	7	9·06
November to December..	4·63	2·60	5·05	5·85
December to January....	0·57	1·60	2·90	3·40

In the daily ranges of the thermometer the coincidence is entirely lost, and the climatic inferiority of the foreign localities is satisfactorily shown.

To return from this digression. It has been already stated that the highest mean temperature of the past year

was in July—the thermometer having risen to the height of 103°, and, according to some, as high as 107°. During three days, the temperature at 3 P. M. rose above 100°, and above 90° during nineteen days. At sunrise, the thermometer was 60°, during seventeen days, and above 70° at 10 P. M. during twenty days. The greatest daily range between the maximum and minimum temperature was 39°; next 36°35; the smallest range was 18°. During twenty days, there was a thermometric range of 30°, or over. The above presents a rather extreme example of our summer weather. In exaltation of temperature, it is stated by old residents of the country to have been rarely equalled; and in the fickleness of its disposition, and its gigantic strides from one degree of the scale to another, it stands alone, distinguished from every other month of the year under review.

This extreme heat was not confined to this city or valley. At or near the period of greatest elevation of temperature here, the thermometer in other localities, throughout the State, ranged even higher than in this city. At Placerville, forty miles in an easterly direction, situated among the mountains, over two thousand feet above the ocean level, the mercury stood, in the shade, on the 11th, 12th, and 13th, at 102°, 102°, and 104° respectively; while at Coloma, among the foot hills, eight hundred and fifty-seven feet above the level of the sea, and about fifty miles northeast of this city, during the same week, the temperature ranged from 105° to 114° in the shade. Again, on the 24th, when the mercury in Sacramento reached an elevation of 102°, at Grass Valley, located in a basin among the mountains, about seventy miles in a northerly direction, the thermometer stood at 110° in the shade. At Shasta and Weaverville, both in extreme northern counties of the State, far up in the mountains, the mercury rose, on the same day, to 113° in the former, and 120° in the latter place. On one occasion, during the month of August, a similar exaltation of temperature occurred all over the State.

These facts are introduced for the purpose of conveying a

proper conception of our summer weather, and the relation which the thermometer in the mountains bears to that in this valley.

It might very naturally be inferred by those familiar only with the hot weather of the Atlantic States, that the exaltation of temperature we have described would necessarily be attended by the most disastrous consequences to those exposed to its influence; and that, during some of the days of the past summer, the climate must have been almost uninhabitable by the Anglo-Saxon race. Yet such impressions are far from being justly entertained, and such a thing as *coup-de-soleil* is, considering the excessive heat of the sun, rarely met with. The fact is, this severe heat of the summer is seldom oppressive; its daily duration is short, and its declension rapid towards the close of the day. Even during the hottest days, with the sun pouring out the concentrated heat of the tropics, there is an elasticity and freshness maintained by the system to which the residents even of New York are strangers during the highest range of the thermometer in that region. But when we consider the temperature at sunrise, and more especially at 10 P. M., an easy explanation will be afforded, not merely of the actual endurance of the summer climate, but of its positive agreeableness. No better evidence of this is needed than that obtained from the records of mortality which will presently be noticed, and a happy illustration is furnished by the circumstances attending the great fire in July last. Although at the time the temperature was 102°, and our citizens were exposed for hours to the combined heat of the sun and the flames, many laboring vigorously, and all more or less excited by the terrible destruction which was befalling them, not one alarming instance of disease is ascertained to have occurred. Many fell exhausted by fatigue, but none were seriously or permanently impressed by the unusual heat of the day.

The climate of the winter months is delightfully mild. If we examine the table of temperatures, we shall find that the lowest monthly mean was 45°23, and the extreme mini-

mum temperature of the winter only 24°, and this for nearly one day. In this, the coldest month, the mean range between sunrise and noon was 11°23; between noon and sunset 10°36; and between sunset and 10 P. M., 6°13; the mean variation between these hours being only 5°90. In February, which appears to have been the coldest month in the Atlantic States, our mean monthly temperature was only 52°90, and the mean meridian 60°10. Between sunrise and noon the variation was 17°75; between noon and sunset 2°53; and between sunset and 10 P. M. 5°97;—the mean difference between these several hours being 8°75.

Those who have been shivering beneath the cold and merciless blasts of the past month in the Atlantic States, with frames benumbed and energies paralysed by a temperature of 20°, 30°, and even 36° below zero, are fully capable of appreciating the genial atmosphere, the balmy breezes, the temperate sun, and the luxurious enjoyment of a California winter. At that very time, while the vegetable world throughout the Middle and Eastern States was lying dormant beneath the frigid hand of winter, our fields were smiling in the freshness of their early verdure, and the delicate blossoms of wild flowers,—the anemone, the violet, the nemophyla, and the ranunculus,—had already expanded their petals to meet the genial sun and woo the balmy air. What more desirable qualities can be sought for in a climate, than those to which we have thus hastily alluded? Especially, when to these external beauties—to all this array of loveliness in the sky and on the earth, there is added a salubrity unexcelled in any region of the globe, we believe that we shall look in vain for a winter climate more agreeable to the feelings, or better suited to the physical comfort and enjoyment of its inhabitants.

We shall close our review of the monthly mean temperatures, with a hasty contrast of the climate of San Francisco with that of this city.

The following is a concise result of a comparison of this

kind, embracing a period of nine months, from April to December, inclusive. Thus, the mean temperature at Sacramento, at sunrise, was *higher* than at San Francisco, in April, 1854, 2°10; in May, 1°17; in June, 3°94; July, 9°38; and in August, 3°48; while at the same hour, the temperature was *lowest* here, in September, 1°92; October, 2°; November, 6°46; December, 9°78.

In the mean maximum observations, the climate of Sacramento was the warmest during every month except one—the difference being in April 2°27; May, 7°64; June, 14°25; July, 20°67; August, 18°71; September, 14°12; October, 5°70; November, 3°. In December, the difference was 1°61, the other way.

The mean temperature, therefore, of San Francisco, at sunrise, was warmer than at Sacramento during the winter months, while the reverse obtained during the summer months.

It would not be without interest to examine into the causes of these differences in the climates of localities with so close a latitudinal approximation. The differences in other respects—in the thermometric range, and in the winds, are equally striking and interesting. Without referring to other causes, it is sufficient to allude to the difference in the topography of the two places, their relative proximity to the ocean, and their unequal exposure to the marine winds and vapors during the summer months.

The observation with the barometer embrace a period of eleven months, and three daily observations. The highest barometer during the whole period was 30·49 inches in December; the lowest 29·44 inches, on the morning of the 1st of January, attended by the severest gale ever witnessed in this valley. The total range of pressure, therefore, was 1·05 inches. The greatest variation in any one month, was 0·88 inch, or more than $\frac{7}{12}$ths of an inch in January, 1855. In February, the extreme range was 0·76 inch, in a period of thirty-six hours.

The range of the instrument from month to month may

be seen by the several tables we have prepared. One cannot fail to be struck with the marked difference between the summer and later fall, and winter months. The result of the series of observations with this instrument are highly interesting, and it would be profitable, in a scientific point of view, to subject them to a minute analysis. The relation of the pressure of the atmosphere, as shown by the barometer, to the health of a community, is, however, so equivocal and obscure, as to make such an attempt unsuited to the general purposes of the present communication.

The observations with the psychrometer demand our attention, and the results obtained are important in their bearing upon the public health. It would well repay the trouble, to make a closely-analytical examination of this branch of our observations, and, with the varying humidity of the atmosphere, endeavor to trace some connection of the sanatory condition of the city. There can be no doubt of the existence of such a relation, and that a coincident of cause and effect might frequently be established between the prevalent diseases and the hygrometric condition of the atmosphere. Especially, when associated with diminished temperature, the effects of an increased humidity are, occasionally, clearly manifested in the greater frequency of those diseases which long experience proves to be connected with this atmospheric condition. This was particularly noticed in the increased prevalence of glandular and bronchial diseases, and their kindred affections of the throat, as the fall months succeeded one another, and on the approach of winter.

Towards this season of the year there was also observed a very decided tendency in disease to the assumption of a typhoid character, attended with a severe and obstinate gastro-enteritic complication. The greater manifestation of rheumatic and neuralgic disorders, with the associated agencies of increased humidity and diminished temperature, further corroborates the views we have advanced of the agency in question.

The topics yet to be considered forbid the extended review of this subject which its importance and interest deserve. It is one of the few tangible atmospheric agencies prevailing in this country to which we can, with plausible reason, refer any very considerable proportion of the idiopathic maladies met with in the walks of the profession. Whether during the excessive heat of summer, or in the milder atmosphere of winter, the influence of the hygrometric condition of the atmosphere is, in our view, plainly discernible in the varying hygienic relation of the climate.

The subjoined tabular statement of the monthly means of the two bulbs of the psychrometer, and the mean relative moisture of the atmosphere, will afford a tolerably clear view of its hygrometric relations. Observe the gradual increase in humidity as the season advances, from August to January, inclusive.

1854 & 1855.	Mean dry bulb.	Mean wet bulb.	Elasticity of vapor necessary for saturation in millemetres of mercury.	Elasticity of absolute vapor present.	Relative humidity
			mm.	mm.	
Aug.	71·63	61·47	20·51	11·12	·54
Sept.	65·39	57·26	16.54	9·91	.59
Oct.	62·00	54·81	14·84	9·21	·62
Nov.	55 88	49·89	12·02	7·82	·64
Dec.	48·18	40·	9·17	6·14	·66
Jan.	44·89	41·38	8·15	5·95	·73
Feb.	52·72	47·51	10·83	7·22	·66
Mar.					

According to the above, the greatest relative humidity was in January, viz.: 73 per cent. of the quantity the atmosphere could have contained, and, therefore, the air was damper than in any other month, although the absolute humidity—the actual amount in gross was really less, in consequence of the low temperature, and its diminished capacity.

We shall refer to the subject of atmospheric humidity hereafter, in another connection. Before dismissing the statistical tables we have been considering, we would refer the reader to the statement of the direction and force of the winds, and to the relative frequency of clear and cloudy weather

at different periods of the day, and in different months. With regard to the winds, it will be seen that the southerly winds are greatly in excess during the summer months, and the northerly winds in the winter and early spring. The subject, is, however, more fully referred to in another place.

In order that a just idea may be formed of the clearness of the sky in this valley, it may be worthy of mention, that by an examination of the daily record kept during the nine months preceding the first of Jan., 1855, it is ascertained that the proportion of observations when the sky was perfectly cloudless was as follows, viz.: in March (last 8 days), 7; April, 34; May, 32; June, 45; July, 52; August, 47; September, 49; October, 13; November, 25; December, 5; out of a series of observations made four times daily. These may be still further classified according to the periods of the day, as follows:—

March,	sunrise	1;	mer.	0	sunset	0	10, P. M.,	6	out of	32	observations.	
April	"	7	"	7	"	9	10 "	11	"	120	"	
May	"	9	"	5	"	7	10 "	11	"	124	"	
June	"	12	"	7	"	10	10 "	16	"	120	"	
July	"	8	"	13	"	10	10 "	21	"	124	"	
Aug.	"	10	"	11	"	7	10 "	19	"	120	"	
Sept.	"	11	"	12	"	4	10 "	32	"	124	"	
Oct.	"	3	"	4	"	0	10 "	6	"	124	"	
Nov.	"	1	"	7	"	4	10 "	13	"	120	"	
Dec.	"	0	"	0	"	0	10 "	5	"	124	"	
Total,		61		60		57		113		1100		

In order to the more perfect elucidation of the summary of monthly means which we have now considered, a series of tables have been prepared, an examination of which will essentially facilitate a proper understanding of the peculiar characteristics of the climate.

The first of these is a statement of the increase and decrease in temperature from month to month.

	Difference in monthly means, four daily observ.	Difference in maxima.	Difference in minima.	Difference in mean m'xima	Difference in mean minima.
April to May	—0·17	—3	—5		
May to June	+6·38	+14·50	+4	+8·30	+4·11
June to July	+8·84	+7·50	+5·50	+10·27	+7·21
July to Aug.	—5·37	—1	—2	—4·32	—5·23
Aug. to Sept.	—5·07	—6	—2·50	—5·15	—4·52
Sept. to Oct.	—2·70	—1	—1	—8·02	+1
Oct. to Nov.	—5·78	—19	—6·50	—5·70	—8·17
Nov to Dec.	—8·36	—5	—11·50	—9·09	—6·96
Dec. to Jan.	—3·19	—1	—4	—5.16	+1·07
Jan. to Feb.	+7·67	+3	+8	+9·14	+4·03
Feb. to Mar.	+4·04	+5·24	+5	+3·48	+6·24

It is here seen that the greatest difference between the means of any two months was 8°84—between June and July—or, that the mean temperature of July was 8°84 greater than that of June. A similar relative difference is observable between the mean maxima of these months, viz., 10°27; although, between the actual monthly maxima—the extreme temperature of any two months—the range in June and July is less than between some other months. In this particular, the greatest disparity is between October and November, and the next between May and June.

The table is particularly interesting as showing the gradual increase of temperature to July, and its consecutive stages of declension to January.

Much has been said at various times, and by different writers, of the coolness of our nights, the rapid reduction of temperature after the hour of maximum thermometric elevation. Indeed, in this circumstance consists one of the most agreeable features of the climate. How severe soever the heat of the day—however exalted the temperature under the burning rays of a powerful sun, the evenings are almost invariably delightfully cool. The rapid radiation from the earth's surface, with the declension of the sun, is one of the causes of this agreeable change; yet the principal agent in the phenomenon is to be found in the direct effect of the southerly winds, whose influence is felt in this portion of the valley during the close of the day. The question of the nature of these winds we need not stop to inquire, nor at this time do more than allude to the various theories enter-

tained as to their origin. By some they are supposed to be excited by the excessive heat of the interior—winds of "suction," as they are termed—currents rushing in from the cooler air of the ocean to supply the vacuity occasioned by the rapid ascent of the heated inland atmosphere; while by others they have been denominated "*pushing*" winds—winds sweeping from the Pacific through the Golden Gate under the existing agency of influences local to the Bay, and "*pushing*" the aerial mass before them through the straits and passes to the valleys of the interior.

The foundation for these opinions it is not our present purpose to discuss, though we cannot forbear the expression of our conviction, from the means of information within our possession, of the entire inadequacy of the latter of these opinions, and its want of correspondence with, and incapacity to account for, the phenomena which attend them in their daily revolution.

Whatever may be ascertained on subsequent meteorological investigation to be true of their origin, there can be no doubt as to their effects, nor of their superior agency in causing the atmospheric changes under consideration. The contrast between those evenings when the wind is north or northwest, and others, the most frequent, when the air is cooled by the refreshing breezes from the ocean, is too striking to escape observation, and is one of the most uniform characteristics of the summer climate.

The following tables are designed to illustrate the daily graduations in temperature occurring under this influence:—

Meridian and 10, P. M., contrasted.					
1854 & 1855.	Greatest difference.	Smallest difference.	Difference in means.	Difference over 15° in days.	Difference under 10° in days.
April	22	0	11·26	6 days	10 days
May	22	3	11·68	8 "	10 "
June	19	1·50	10·07	5 "	10 "
July	19·50	8	17·08	11 "	2 "
August	24	6	14·65	10 "	3 "
Sept.	20	8	14·03	9 "	4 "
Oct.	20	6	12·36	1 "	8 "
Nov.	17	4	10·72	2 "	13 "
Dec.	15	3	7·71	0 "	22 "
Jan.	18	0	6·49	1 "	24 "
Febr.	15	2	7·20	0 "	17 "
March	17	1	8·96	1 "	16 "

Maximum temperature contrasted with 10, P. M.					
1854 & 1855.	Greatest difference.	Smallest difference.	Difference in monthly means.	Difference under 15° in days.	Difference 20°, or over, in days.
May	22	5	14·59	12 days	3 days
June	23	5	15·72	12 "	5 "
July	24	9	19·66	1 "	18 "
Aug.	27	12	19·75	3 "	14 "
Sept.	26	13	19·15	3 "	13 "
Oct.	21	7	14·16	16 "	2 "
Nov.	22·50	3·50	13·60	14 "	4 "
Dec.	21	4	11·63	25 "	2 "
Jan.	21	2	10·82	21 "	1 "
Feb.	17	2	11·42	21 "	0 "
Mar.	18	2	11·66	22 "	0 "

In the first of these tables are contrasted the temperatures of noon and 10, P. M., showing the difference in the means and extremes of each month at these hours. With regard to the mean differences, the greatest contrariety is seen to have occurred in July, and the least in January. Before this latter month, however, the operating causes spoken of have mainly ceased, and the examination should be confined to the eight months, between April and November, inclusive. With this limitation, the mean difference in temperature at 12, M., and 10, P. M., for the whole period, would be 12°73.

In the column of extreme differences, we find that the greatest disagreement for the eight months was in August, viz: 24°, and the least in November, 17°. In the whole period, the difference was over 15° during 52 days, and under 10°, sixty days, leaving 134 days with a difference between 10° and 15°, inclusive. It will be observed, that after October, the variation in the temperature at these hours becomes rapidly less, until February, when it again increases.

If we contrast the maximum temperature with that at 10, P. M., we shall find the greatest difference, both in the means and extremes, to have occurred in August, and the smallest difference in November. Of the whole period, from May to November, inclusive — 214 days — there were 153 days with a thermometric difference of 15°, or over, and of 20°, or over, during 59 days.

In the succeeding table, the gradations in temperature between the hours of maximum and sunset, and the former and 10, P. M., are more clearly exhibited, as well as the relative frequency of southerly wind, at noon, sunset, and 10, P. M.

1854 & 1855	Max. temperature at sunset and 10, P. M., contrasted; also wind at meridian, sunset, and 10, P. M.				
	Max. and sunset, diff. of means.	Max. and 10, P. M. diff. of means.	Wind south'ly in days, at mer.	Wind south'ly in ds. at sunset.	Wind south'ly in ds. at 10, P. M.
1854.					
May.....	7·85	14·59	23 days	25 days	27 days
June.....	9	15·72	20 "	28 "	29 "
July.....	11·15	19·66	22 "	29 "	29 "
August....	10·75	19·75	26 "	29 "	31 "
September.	11·22	19·15	26 "	28 "	30 "
October...	5·58	14·16	22 "	23 "	26 "
November.	5	13·60	12 "	12 "	15 "
December..	5·14	11·63	12 "	17 "	17 "
1855.					
January...	4·69	10·84	13 "	15 "	18 "
February..	5·45	11·42	16 "	14 "	10 "
March.....	7·25	11·66	19 "	20 "	21 "

The greatest difference between the mean maximum and sunset temperatures was in September, 11°22, and between the ranges at the hour of maximum and 10, P. M., in August, 19°75; the mean difference for seven months—from May to November—being 8°65 between the former hours, and 16°66 between the latter, or nearly double that between the maximum and sunset temperatures.

In the direction of the wind there is not observed so great a disparity, yet sufficient to demonstrate the gradual increase in the prevalence of southerly winds after noon. If the completeness of the observations at other periods of the day—after sunrise and between this hour and noon—would permit, a much more striking contrast could be exhibited.

Upon examination of the daily reports kept during the summer, we find it to be a common occurrence for the wind to change its direction shortly after sunrise round to the northwest or north, and to remain in this quarter for a greater or less period of time, as shown by the tables.

We have dwelt thus long upon this portion of our subject,

because it is considered to embrace one of the most important peculiarities of the climate. To the physical system, relaxed and languishing under the burning rays of a mid-day sun, flushed with an atmosphere of 95° or even 100° of Fahr., nothing can be more grateful to the feelings than the cooling breezes which come wafted over the plains, freighted with oceanic vapors and invigorating freshness.

If, with the excessive heat, we consider the dryness of the atmosphere, — the vapor of water present, amounting frequently in the hottest part of the day to less than 20 per cent. of the quantity it could contain,—and reflect upon the evaporation which must be going on from the surface of the body under such favorable influences, some adequate idea may be formed of the delicious sensations which these cooling winds occasion, and the refreshing luxury of their daily return.

It is not surprising if, from changes in temperature so extreme as those which we have seen to ensue after the hour of maximum heat, there should result, in consequence, some injurious effects upon the general health. Indeed, we may consider the transition now under consideration as one of the most prominent and fruitful sources of disease to which we are exposed.

Upon examination of the tabular statements before referred to, it will be seen that the variation in temperature between 3, P. M. (max.), and 10, P. M., was over 20°, during 18 days in July last, while between the maximum (3, P. M.) and minimum (max. sunrise) in the same month, there might have been shown a discursiveness of 30°, or over, during 19 days. The extreme daily range was 39°. In August, the difference between the hours of 3 and 10, P. M., was 20°, or over, during 14 days; between the maximum and minimum 30°, or over, during 21 days; and the extreme daily range was 40°. In September, the mercury exhibited a slighter variability, and the temperature was exempt from those vast extremes, noticed during July and August; yet even in this, there were 13 days showing a range of 20° of

Fahr. between 3, P. M., and 10, P. M. Between the maximum and minimum the difference was 30°, or over, 15 days; the extreme variation having been equal to that in July.

Exposure to conditions of temperature such as we have described, could hardly fail of exerting a more or less deleterious influence upon the system. The wonder is, that it should not be more severely manifested than experience warrants us in believing, or than is shown by the records of mortality. It is, indeed, surprising that, under these atmospheric habitudes, the excessive heat, the variability of the temperature, the exceeding dryness of the air, and the rapid evaporation which, under the scorching rays of the sun, must have been going on from the surface of the cutaneous system, and the hyperæmia, the congestive tension, the exalted susceptibility of the internal secreting organs, there should not have been, during the months referred to, a very decided prevalence of disease. Especially, when we regard the exposure, the excesses, the imprudences, and the general mode of life among so many of the population, it is wonderful that disease should not have more universally diffused itself than is demonstrated by the statistics of the season. Yet there probably never was a summer when the destructive impress of disease was less felt in Sacramento, than the past. It would seem that in almost any other climate in the world, the same obvious operating causes, the same regimenal and atmospheric agencies, could not exist to an equal extent, without an overwhelming manifestation of their disastrous consequences. It will be seen hereafter that such is far from being the case, and that in the months of July, August, and September, combined, the total mortality was only fifty.

With regard to the diurnal variations in temperature, it may be observed that, though these are *ultimately* great, or in other words, though the thermometer range between the hottest part of the day and the coldest is large, yet it is not *usually sudden*, and is thus unattended by those disagreeable and deleterious impressions upon the nervous system which an abrupt deviation to the same extent would be likely to occasion.

The mean temperature of June, for example, at meridian, differs from that at sunset, less than 4°, and from that at 10 P. M., only about 10°, while on the day of the greatest range, viz., 30°50, the thermometer stood at sunset only 5° less than at noon, and at 10 P. M., only 14°. The mean maximum temperature in the same month was 81°15; and on comparing this with the means at sunset and 10, P. M., we find the range only 5° for the former, and 15°72 for the latter, though the difference between the mean extremes of the month—the range between the mean maximum and minimum—was 27°01. The same may be said of other months. It is not until near sunrise that the minimum extreme is observed, and the easy gradations by which the reduction of temperature ensues, as well, also, as the comparatively small diminution which has taken place at an hour when a vast majority of the population would be likely to be exposed, will partially account for the very great immunity from disease by this cause which experience exhibits.

Another modifying and palliative agent in pretty constant action during the season of these winds, may be found in the hygrometric condition of the atmosphere.

It will be seen by an examination of the observations with the psychrometer, that the prevailing state of the atmosphere during the summer months is dry. So extreme is this aridity at times, that the lower aerial strata seem to be almost completely desiccated, or at any rate, to contain but a very meager per centage of their capacity for moisture. On several occasions this has been ascertained to be less than 20, 18, or even 15 per cent., and its effects upon the system are similar to the reputed influences of the sirocco of Italy. On the 15th of August, 1854, at 3 P. M., the temperature being 96° Fahr., the atmosphere could have contained about 460 grs. of the vapor of water in each cubic yard. There was present, in fact, only about 83 grs., or 18 per cent. of the quantity necessary for saturation. At this time the wind was northwesterly, and oppressively hot. Now,

although the south wind should, at this time, have come up from the ocean loaded with vapor, a large amount must have been absorbed—377 grs., supposing the temperature to have remained unchanged—by every blast which swept over the valley, before saturation would have occurred. But as the mingling of the cool marine breezes with the heated air in the valley would have lowered the temperature of the latter, and consequently its capacity for moisture, somewhat less than 377 grs. would have occasioned saturation. At sunset the temperature had actually fallen to 84°, and at 10, P. M., to 76°; yet at this latter hour, although the wind was then southerly, the atmosphere was far from being in a state of saturation, containing only 57 per cent. of the quantity it could have absorbed. This is not considered an extreme example, and many similar instances might have been selected for illustration, during the hottest days of the past summer.

We have prepared a table, or chart, by the aid of which, the dew-point and temperature being known, the absolute humidity in grs. is determined. By an observation of this kind every day at noon, we have gained a fair appreciation of the extreme aridity of a portion of the past season. The following are examples of this atmospheric peculiarity. Thus, on the 7th of July, 1854, with a meridian temperature of 73° and a dew-point of 45°, there were present only 3·41 grs. of vapor of water in each cubic foot of air, against 11·96 grs. which it might have held in suspension; on the 14th, 6·79 grs. against 15·89 grs.; and on the 24th, with a temperature at noon of 94°, there were present only 4·30 grs. in a cubic foot, whereas the atmosphere possessed a capacity for 16·84 grs. These few examples may suffice for our present purpose. Is it not probable that this dryness of the atmosphere is one of the reasons of so great an exemption from injurious effects consequent upon the extreme vicissitudes of temperature? Upon examination of the tables, it may be seen that, at 10, P. M., the mean relative moisture, or the per centage, during the hot months of summer, was not

large; in August it was 62 per cent. Inasmuch as cold associated with moisture is rendered much more deleterious to the system than in the opposite hygrometric condition of the atmosphere, it seems fair to conclude that the proposition we have endeavored to maintain is well founded, and that one of the causes, if not the principal one, of so general an immunity from disease, consequent upon exposure to the extremities of our climate, may be found in the comparative freedom of the atmosphere from aqueous vapor.

We said that the variation in temperature was *usually* gradual. Such, however, is not always the case. At times the change occurs with suddenness, and with a rapidity of declension seriously conflicting with physical comfort, and detrimental to physical health. To this cause are to be attributed many of the affections of the mucous, fibrous and pulmonary tissues met with in the summer months; and we believe, moreover, many of those diseases, usually considered to be of a malarious origin, though not actually originating in this cause, may strictly be referred to it as a powerful predisponent, as inducing an adaptability to their encroachments, which would otherwise be successfully resisted by the innate vigor of the constitution.

Upon the nervous tissues, especially, from their intimate relation to the cutaneous surface, the impression bears most energetically, and it requires but a casual inquiry into the exciting causes of the diarrhœas and dysenteries met with in practice to lead the mind to fasten upon this as one of the most prevalent and active. Attention to the avoidance of exposure to these diurnal vicissitudes, and care to avert their injurious consequences by proper clothing and regular ablution, will of themselves prove more effectual preservatives against attack, and of more avail in many cases as remedial agents, than all the appliances of the materia medica.

To individuals with sensitive respiratory organs, whose bronchial and pulmonary membranes are irritable, these changes often prove exceedingly troublesome, and too often confirm a diseased condition, which, under more favorable

circumstances, might have been insignificant and unessential. It is difficult intelligently to estimate the true influence of the climate upon pulmonary phthisis. Many of those who die of consumption in this country undoubtedly came hither with the germs of disease already well developed; and, as it is apt to do in any climate, it has here progressed to a fatal termination. We conceive that there is little doubt of the ineligibility of those portions of the State, subject to the influence of the winds from the ocean, and the extreme vicissitudes consequent upon them, for persons of consumptive predisposition. It will be presently shown that at Sacramento, out of 267 deaths in the past year, 29 are set down as cases of consumption; and in San Francisco, out of 1765 deaths in the city proper, and at the hospitals, 203 are reputed to have occurred from this cause. Of course many of those dying at the hospitals should not properly be considered as cases originating under climatic influences belonging to California; for of these 203 more than one fourth were at the United States Marine Hospital, and were composed of seamen dying of diseases contracted abroad.

It would seem that the dryness of our climate, at certain seasons, would render it a favorable one for the disease under consideration, and there can be no doubt that for many cases such is the fact; while the modifying elements which have already been referred to in connection with the daily variations of temperature, as dependent upon the aridity of the atmosphere, must render it much less prejudicial than it would otherwise prove to be. It is probable that in many of the mountain countries, above the level of the fogs and dampness which at times accumulate in the valleys, the condition of the atmosphere may be highly favorable for this class of diseases.

It would be interesting to examine into the relations of the native Californians to tubercular phthisis, and to inquire into the frequency of the manifestation of the disease among those who, by birth and by hereditary impress, are the peculiar subjects of the climatic influence, and serve, in their

constitutional tendencies, to illustrate its features. Our means of information upon this subject have been limited, though we have been informed, upon reliable authority, that among the natives of the southern portions of the State true tubercular phthisis is extremely rare. The climate of this portion of the State differs from the more northerly sections in some important respects, being more equable in temperature, and possessing a clearer, drier, more transparent atmosphere. The extremes of heat and cold—the maxima and minima—are said to be less discrepant; it is warmer in winter, and cooler in summer.

The question is one of interest, and admits a more extended examination than will accord with the assigned limits and purposes of this communication.

We have devoted thus much to the subject of the daily variation in temperature to which we are exposed, and its influence upon the health, from a conviction that to this single cause many of the diseases met with in this valley are to be attributed in its direct or secondary relation. In concluding the subject we cannot forbear to repeat the expression of surprise, that, under the atmospheric agencies alluded to, there should not be found a far greater and more general impairment of health than facts or the records of mortality exhibit. It would seem, that under no other combination of circumstances than those which stamp, with emphatic and singular salubrity, the climate of this portion of California, could this immunity from severe disease so widely prevail.

It is not to be inferred that this inequality of temperature is a uniform characteristic of our climate. On the contrary, the daily range of the thermometer is frequently small, and, as may be seen by an examination of the tables, the temperature is, during some months, remarkable for its equability. A comparison with some localities in the Atlantic States presents the climate of Sacramento in a favorable light. At Lambertville, N. J., the difference in the means of Fahr., between the hours of 2, P. M., and 9, P. M., in June, 1852, was 18°49, being an excess of range over that at Sacramento this

year of nearly 3°. At Chapel Hill, N. C., the difference in means at 3, P. M., and 9, P. M., for the same month, was 12°40, and at Cambridge, Mass., 11°8; while at Savannah, Geo., the means, at 2, P.M., and 10, P.M., June, 1852, contrast with those in Sacramento, in 1854, at 3, P. M. and sunset, corresponding nearly, in hours of observation, as 6°2 for the former and 4° for the latter.

In monthly means these two places stand in the relation of 77°9 for Savannah and 66°8 for this city. By taking the mean of the difference between the maximum and minimum temperatures in each month at Savannah, and also at Sacramento, we find the result to be nearly 6° (5°95); or, in other words, that the mean monthly range of the extremes of temperature is only 5°95 less in Savannah than in this city.

In Savannah, the greatest range in temperature appears to be in the autumn and winter months; with us in midsummer. In Sacramento the range, in July, was 51°50, and in August 52°50. In Savannah, the previous year, the range was 26°7 and 24°5, respectively; while in February, the range at Sacramento was 39°, and in March 39°. In Savannah, at the same time, it increased to 42°1 in the former, and 47°4 in the latter month.

In many respects the climate of Sacramento is the most delightful of which we have any knowledge. If you take the past year as an example, it surely cannot be surpassed by any other locality in the same parallels of latitude. Although the sun at meridian is at times, during the summer months, exceedingly hot, yet, as before remarked, the atmosphere is seldom oppressive, and the duration of the extreme daily temperature is confined to a very small portion of each day. The fall of the year is particularly attractive—fascinating by its bright skies, its transparent atmosphere and agreeable temperature, and excelling in all that is calculated to please the taste, to gratify the feelings, or to improve, expand and exalt the physical condition of a population. Viewed in all its relations, in the character of the several seasons, and in their succession throughout the year, we

regard the climate of our autumn months as surpassingly delightful. Avoiding either extreme, the temperature is moderate; the mornings fresh and invigorating, the noonday subdued into a genial warmth, and the evenings generally mild and beautiful. Such were October and November last. With a mean meridian temperature, in the former of 71° and in the latter of 65°—an atmosphere whose freshness is constantly renewed and its salubrity insured by the genial current which sweeps above us, and a sky rivaling that of Italy in its rich and delicate blue, its transparent clearness, its gorgeous glories reflected from the setting sun, and, above all, in the splendor of the night, with its bright stars and deep-encircling blue—with such a climate, where shall a better, or one more suited to the physical necessities of a population, be sought? The winds, which during the summer months prevail most generally from a southerly direction, at this season are more frequently northerly or northwesterly; such is their common direction during the intervals between the rains, and they are then cool, refreshing and invigorating. Our coldest weather in the winter season is experienced during the prevalence of these winds; and their steady perseverance in this quarter is properly regarded as a pretty certain indication of continued fine weather.

Such, in few words, is a faithful portraiture of our fall and winter months, except during the immediate régime of the storm-king. This is only at intervals of a few days' duration, the interregnum being, generally, unexceptionably fine.

The sanatory condition of the city, at this season of the year, is universally good. Most of the causes of disease which have been referred to, have now ceased to prevail. The extreme and gigantic strides of the thermometer, between the hottest and coldest portions of the day, have given place to a more regular, yet agreeable variation—a genial warmth at meridian, a pleasurable reduction of temperature in the evening, a cool, bracing, invigorating atmosphere in the early morning. In addition to these favorable considerations, the hygrometric condition of the

atmosphere is not to be overlooked. Except for a short time antecedent to, and during the prevalence of rain, the relative humidity is generally small. Even as late as November and December, the mean relative humidity, at noon, was 49 and 53 per cent., respectively, and on several occasions, during each of these months, as low as 30 and 35 per cent., at the same hour. At a later period of the day, it was even much less than this. It is not surprising that, under such meteorological conditions—under this combination of a dry atmosphere, regular, cool and invigorating breezes, and a moderate and tolerably equable temperature—the sanatory condition of the population should remain uniformly good. Such, in fact, is the actual condition of things. The accumulated experience of each year only adds confirmation to the opinions, so often expressed, of the unequaled salubrity of the climate; and of the fall and winter months this is eminently true. The records of mortality, embracing every death occurring in the city, are full of practical interest on this point, and fully establish the position assumed. During the months of December, January and February there was in each month an average mortality, from disease, of 12 persons. This, in a population of 13,000, would give one death monthly to every 1084 inhabitants—a sanatory condition without a parallel in any of the larger cities on the Atlantic coast. This is no isolated example—no peculiar season. A similar calculation for several of the past winters would afford a similar result. Indeed, according to our own experience, the sickness during the present winter and spring has, thus far, exceeded that of the last season

While on the subject of the winter season, it may be interesting to notice, as an item of some importance in the climatic history of Sacramento, the fact of ripe strawberries having been gathered in the gardens immediately on the outskirts of the city, in November of the last year. Perhaps no circumstance can serve as a better illustration of the advantages of the climate, than this.

The effect of climate upon the vegetation of a country—the influence of the seasons in their annual rotation, in retarding or invigorating the productive energies of the soil, is one of the most interesting considerations in which it may be studied, not only in an economical point of view, but in the bearing which it has upon its medical character. The vegetable productions of a country, the variety of plants which it is capable of sustaining, and the development they may ordinarily attain, amid the adverse influences of winter, or the trying extremes of summer heat, must, it will at once be admitted, bear an important relation to its influence upon the animal organizations inhabiting it. The consideration of this subject opens an attractive aspect of our climate, to which we can do no more than allude at the present time.

Allusion has occasionally been made in the preceding pages to the transparency of the atmosphere in California. Indeed, in this attribute of beauty it can scarcely be excelled anywhere. Even to this valley this remark will justly apply, yet with how much greater force to the more elevated districts—to the mountains of the Sierra Range, and especially to the southern portion of the State. As an instance of this atmospheric characteristic, and the extent to which it prevails, the following has been related to us by Dr. Trask, the present State geologist. At San Pedro, in Los Angelos county, the signal-staff of the United States coast-survey, situated at an elevation of 1600 feet above tide level, is distinctly visible to the naked eye at a distance of four miles by an air-line measurement. The diameter of the staff is only 4½ inches. The Doctor informs me that he has repeatedly noticed the phenomenon. Even in this valley, at Sacramento, such is the transparency of the atmosphere at times, that the range of the Sierra Nevada, extending along the eastern limits of the State, at a distance of 100 to 150 miles, have occasionally appeared to lift their huge summits along the very outskirts of the city. I have noticed this only in the morning, before sunrise, and even

this very morning (March 21st) so distinctly, as to strike me with surprise.

The atmosphere of the valley is far from always possessing this attribute to so remarkable a degree. Even during many of the hottest, and, as far as the lower strata of air are concerned, the dryest days of the summer months, when the sky is perfectly cloudless, there is observable a vapory condition of the atmosphere obscuring the natural color of the heavens. We have observed this condition much less frequently when the wind was west or northwest, and when a fresh breeze was blowing. At such times it would seem as if the vapor in its ascent would be collected into light masses of clouds, revealing an atmosphere above which rivals, in its deep, clear blue, the sky of the tropics.

In the month of August attention was paid to this subject, with the view of ascertaining the prevalence of this feature, and of classifying the color of the sky, according to the particular shade exhibited. The following is the result:—

Sunrise	vapory,	20 days;	light-blue,	5 days;	blue,	2 days.		
Meridian	"	11 "	"	14 "	"	4 "		
Sunset	"	14 "	"	10 "	"	5 "		
10, P. M.	"	14 "	"	15 "	"	14 "		

At meridian, sunset and 10, P. M., two days were omitted.

The above is intended only as an approximation to correctness, and is calculated to convey a very general idea of the appearance of the atmosphere during the month. During several of the days classed as light-blue there was more or less vapor floating in the atmosphere, yet not sufficient to admit a different classification. Those included under the class "blue" presented various shades, even to the deepest.

A single additional reference to the meteorology of the climate will conclude our remarks upon this subject;—we allude to the quantity and number of rains with which we have been visited during the present season. In this respect seasons are so variant, that no single case can serve as an exact standard by which to judge of the true character of all; yet, by the table given below of the number and duration of the rains this season, an approximative idea may be formed of what a rainy season in California consists.

It may not be amiss to remark, that our rains almost invariably come from a southerly direction, usually south or south-south-east. So uniform is this proclivity, that we have had during the past year only one rain from the northerly half of the octant.

The probable source of the north winds in the mountains of Oregon, as well as their invariable dryness, and their pretty constant association with a high barometer, are, of themselves, sufficient reasons for the uniform observance of this rule.

We shall commence our examination with October, 1854, although as early as the 21st of August there was the unusual occurrence of a brisk shower.

The following will exhibit the dates of the rains from October to March, inclusive, with the quantities which fell each day. The measurement was made daily, at 9, A. M., and includes all that fell from 9, A. M., of one day to the same hour on another:—

Rain at Sacramento from October, 1854, to March, 1855, inclusive.

M'ths	Date	Inches	M'ths	Date	Inches	M'ths	Date	Inches
Oct.	4th	0·42	Dec.	30th	0·255	Feb.	14th	sprinkle
"	9th	0·15	"	31st	1·545	"	22d to 9 A. M. 23d	0·08
			1855.					
"	12th	0·12	Jan.	1st	0·0220	"	23d to 9 " 24th	0·0275
"	13th	slight	"	2d to 9 A. M. 3d	0·45	"	25th to 9 " 26th	0·1750
"	20th	sprinkle	"	3d to 9 " 4th	0·25	"	26th to 9 " 27th	0·3455
"	22d	"	"	4th	light	"	27th to March 1st	2·87
"	23d	0.07	"	5th	l't snow	M'ch	1st	light
"	24th	0·04	"	7th	sprinkle	"	2d to 9 A. M. 3d	0·17
"	25th	0·18	"	8th	0·60	"	4th to 9 " 6th	0·89
"	26th	0·06	"	18th	0·63	"	6th to 9 " 7th	0·165
Nov.	18th	0·65	"	30th	light	"	9th	0·025
"	21st	0·0267	"	31st	0·05	"	12th	0·79
"	27th	sprinkle	Feb.	1st	sprinkle	"	13th	0·03
"	30th	"	"	6th	"	"	14th	0·21
Dec.	2d	8·0818	"	7th to 9 A. M. 8th	0·405	"	29th	sprinkle
"	4th	0·32	"	8th to 9 " 9th	0·063	"	30th to 12 M. 31st	1·392
"	26th	sprinkle	"	10th to 9 " 11th	0·25		Total to April 1st	13·8085

The above includes all the days of rain within the time specified, and may be considered to embrace one entire rainy season, although we shall undoubtedly have occasional showers in April, possibly one or two in May. If we extend our examination back to include twelve successive months, to April 1, 1855, we shall have to add for April, 1854, 11 days, when more or less rain fell, varying from the merest attempt to a brisk shower; May, 4 days; June, 3 days; August, 1 day;

September, 1 day; making in amount an aggregate of about two inches. It is proper to notice, in addition, as a somewhat unusual event, the occurrence of sharp lightning in April, and again in June. On the last occasion it was sufficiently severe, about fourteen miles in the interior of the country, to terminate the career of a valuable cow.

Another subject to which we may profitably refer, is that of the physical influence of the climate—its effects upon the physical system of its inhabitants, considered in a distinct aspect from its morbific tendency. We shall not stop to discuss the question of the influence of the climate upon the development of man, as an organized being, though there are many substantial reasons, drawn alike from analogy and from direct and positive demonstrations, upon which the proposition of its superiority, in this respect, may be successfully maintained. Indeed, it may be remarked, that nowhere is there exhibited in the physical development of the animal organizations of a country, a more conclusive evidence of the directly modifying tendency of its climate, than is displayed among some of the animal races in California. The vigor, the energy, the physical amelioration which ensues upon their introduction into the State, can only be referred to this agency, and their thorough appreciation must lead, with all the weight of a sound analogy, to the substantiation of the principle to which we allude. The view of the climate which we intended, more especially, to illustrate, is that of the resiliency, the elasticity, it imparts to the system under the inroads of severe disease, or the shock of local violence—the recuperative energy displayed under circumstances the most inauspicious and discouraging. During a residence of nearly four years, numerous instances, illustrative of this climatic tendency, have occurred, and we regard it as one of the most remarkable, felicitous and interesting expressions by which it is distinguished. Allusion has already been made to the remarkable exemption from disease exhibited by our inhabitants, under circumstances which, by all the processes of reasoning commonly adopt-

ed, would be expected to lead to a different result. In the earlier days of the settlement of the State, these modified influences were much more prevalent than at the present time; but, even now, they are to be seen every day, and serve as living evidences of the excellence of the climate—of the existence of the peculiar element of health under consideration. If we take, for example, the condition of some portions of this valley during the summer months, steaming beneath the rays of a burning sun—diffusing the rank vapors which arise from the depositions of an inundation over vast neighborhoods, or, as shown on a previous occasion, even of this city in the days of the annual floods, and observe the transient, the trifling, the very equivocal evils which ensue, we are at once furnished with a satisfactory illustration of the climatic principle to which we refer. But even more clearly is this principle displayed in the recuperative energy of the system under the destructive influences of disease or violence. No better evidence of this can be required, than what may be fairly deduced from the following case:—

A gentleman, of a naturally strong and vigorous constitution, was severely injured in a recent steamboat explosion at this port. Beside a large number of burns or scalds, denuding the cuticle from an extent of surface not less, in the aggregate, than five hundred square inches, upon his right leg was a compound comminuted fracture of both bones. The comminution was for an extent of about five or six inches of the tibia, and in some ten or twelve pieces. The protrusion of the bones was in two places, one each at the upper and lower extremities of the fracture. In fact, the tibia was completely crushed for the extent mentioned. In addition to the exfoliation of the cuticle by the scalds, the cutisvera and circumjacent cellular structures were entirely destroyed over a space not less than twelve or fifteen square inches. When the patient was found, after the accident, such was the vital depression, such the destruction of tissues around the fractured extremity, such the extent of nervous filaments exposed through the bare and denuded cutis, such

the gloom, the mental depression, attending an accident so frightfully fatal in its consequences, that all reasonable probability militated against the saving the limb. If to these untoward prospects we add the profuse drain which was so soon to be established from so extensive a suppurating surface as that which the scalds had exposed, and the debilitation which must inevitably ensue, it must be admitted that the prognosis of an ultimate recovery with the integrity of the limb preserved, was scarcely to be entertained. Surgery—the science, the theory of surgery—here would have taught that amputation was almost inevitable. But an operation, postponed in deference to the wishes of the patient, at length became unneeded. Nature, taking the case into her own hands, almost unaided, save by the influence of the inherent efficacy—the recuperating impulse of a favorable climate, is repairing the injury in her own quiet way, and triumphs over the precepts of science and the sagacity of the surgeon.

This is no isolated case. Its counterpart may frequently be met with in medical and surgical practice. Akin to the principle of organic development, of which we have already spoken, this constitutional element of the climate is equally pervasive, and is strongly exemplified by the most unmistakable evidences.

We have before alluded to the diseases most prevalent in this valley, and need not now repeat what was then stated, nor add any very lengthy description of their peculiar features or relative frequency. The fevers are comprised under the general heads of Intermittent, Remittent, and Typhoid, and their relative frequency may be stated in the above order.

Generally speaking, they are mild in form, and readily amenable to early and judicious treatment; the principal local mischief to be apprehended being a gastro-enteritic complication. A purely congestive type of fever is occasionally, though rarely met with, in this immediate neighborhood. The same hasty glance may suffice for the diarrhœas

and dysenteries which occur, especially during the summer and early autumn months.

Under these two names may be comprised the greater proportion of the diseases which demand treatment during these seasons. In their early stages they are generally mild and tractable, but, by neglect or imprudence, often become obstinate and troublesome. We have alluded to what we consider one of the principal causes of these complaints, and to the hygienic means most essential both for their prevention and cure.

Without a proper regard to these precautions—without some attention to the preservation of a healthy action of the cutaneous system, and, through this, of these important internal organs and surfaces of secretion, these affections are too often constantly recurring, and assume a chronic form from which complete relief is with difficulty obtained. Of these diseases, a few cases were observed in September, which seemed, for a time, to threaten the prevalence of a severe form. These were manifested as diarrhœa, attended by frequent watery discharges, colorless, and without much pain or tenesmus, with a cool, dry skin, pale, clean or slightly-furred tongue, and chiefly characterized by an entire absence of the natural warmth of this organ. With these symptoms, was a prostration of strength, a feebleness of pulse, and a peculiar anxiety of countenance, which stamped the disease as one requiring prompt remedial measures. These threatening symptoms were effectually relieved by full and frequently-repeated doses of camphor, combined with calomel, opium, and, if required, capsicum, aided by a scrupulous observance of absolute rest in a recumbent posture.

With the exception of a few such cases as the above, the health of the city, during the month, was good, only twenty-one cases of death having occurred, of which four were of diarrhœa and dysentery, four of typhoid fever, and two stated to have been of ship fever.

No more satisfactory evidence of the sanatory condition of

the city can be furnished, than that derived from the report of the annual and monthly mortality. Judged by this standard, the climate of Sacramento may be regarded as one of the most salubrious in the world. The records of mortality are decisive upon this point, and fully and unequivocally sustain the views we have already repeatedly advanced in reference to the health of the city. They also completely corroborate the opinions contained in the foregoing pages as to the character of the meteorological elements of the climate—of such, at least, to which have been ascribed a more or less intimate hygienic relation.

The following is a tabular statement of the principal causes of death during the year 1854:—

Table of Mortality at Sacramento City for 1854.

Diseases.	Deaths.	Diseases.	Deaths.	Diseases.	Deaths.
Diarrhœa.....	23	Convulsions....	5	General Debility....	3
Dysentery.....	13	Enteritis.....	10	Paraplegia.....	2
Consumption.....	29	Hepatitis (?)....	2	Epilepsy	1
Fevers.....	42	Chol. Infantum.	1	Worms (?).....	1
Dropsy.....	8	Chol. Morbus...	2	Scrofula.....	1
Dis. of Lungs...	14	Laryngitis	1	Smallpox	5
Dis. Heart.....	1	Bronchitis	1	Tabes Mesenterica..	1
Dis. Brain.....	8	Croup.....	4	Ovarian Tumor	1
Dis. Spine.....	2	Rheumatism ...	1	Childbirth and sundry accidents, murders and unknown	79
Erysipelas.....	3	Teething	2		
				Total	266

It is worthy of being remarked that out of the whole number of deaths, viz., two hundred and sixty-six, forty-eight were occasioned by sundry accidents, or direct indiscretion or intemperance, and twelve were Chinamen who died of a peculiar malady, by some supposed to have been the scurvy, contracted on the voyage to California, and the same disease which proved so frightfully fatal among these immigrants at San Francisco. If to these we add those which were manifestly unconnected with climatic causes, such as spinal diseases, convulsions, epilepsy, worms, smallpox, tumors, tabes mesenterica, disease of heart, and paraplegia—being a total of eighteen, we shall have seventy-eight deaths

which could not reasonably be referred to any local atmospheric influences, or a little less than one third of the whole; and if to these again we add those from unknown causes, viz., thirty-one, we shall leave only one hundred and fifty-seven deaths during the year, which can plausibly be ascribed to the climate.

Admitting the justness of these deductions, the mortality of the city for the year was only one in 82 inhabitants, in a population of 13,000; or, reckoning from the total number of burials—which includes death from all causes—the ratio of deaths to the population would be only one in 48 inhabitants.

The statistics of mortality in the larger cities of the Atlantic States are not at hand, by which to institute a comparison with the result just stated for Sacramento. From the November No. of the *New York Journal of Medicine* we learn, that in New York city 22,702 deaths occurred in the year 1853. This, supposing the population to have been 500,000, would be a mortality of one in twenty-two, or more than double that of Sacramento, even if we include in the estimate the large number of burials which were the result of murder, suicide and sundry accidents.

The large mortality among those under the age of five years is surprising, and of these 34 were of the age of one year, or under. The proportion is certainly a large one in comparison to the whole number of deaths, and forcibly exhibits the change which has recently been effected in the character of our population,—a change indicative of vast social and moral amelioration. In 1852, as was formerly shown, only 49 of the whole mortality was under five years of age, of whom 17 were under one year; and in 1853, 23 were under five years and 18 under one year. The table on the next page is a statement of the ages of the deceased for 1852, '53, and '54:—

Sufficient has been already said of the relation of the different months to disease. Both in this and a former review of this subject, we have alluded to the causes pre-

vailing in our climate during different seasons, and the statistics of mortality fully corroborate the opinions expressed.

Statement of Ages of Deceased for 1852, 1853 *and* 1854.

AGES.	1852.	1853.	1854.
Under 5 years	32	23	62
From 5 to 10 years	4	8	6
" 10 " 20 "	15	21	9
" 20 " 30 "	87	214	41
" 30 " 40 "	70	126	45
" 40 " 50 "	43	79	24
" 50 and over	24	40	10
Unknown	49	106	69
Total	333	643	266

We shall conclude the subject with a hasty contrast of the mortality of Sacramento and San Francisco, and with such reflections as grow out of it, having reference to the comparative salubrity of the two localities. The statement of mortality in San Francisco is taken from the published report of the city sexton, embracing the burials in all the different cemeteries.

Comparative Mortality of Sacramento and San Francisco.

1854.	Sacramento.			San Francisco.			
January,	37	July,	19	January,	128	July,	154
February,	17	August,	20	February,	97	August,	245
March,	23	September,	21	March,	135	September,	216
April,	12	October,	32	April,	120	October,	166
May,	16	November,	27	May,	126	November,	119
June,	18	December,	24	June,	117	December,	83
Total,			266	Total,			1765

Taking the above as a guide in our estimation of the relative salubrity of the two localities, we cannot fail to be struck with the very evident advantage, in this respect, on the side of Sacramento.

We have already seen that the mortality of Sacramento during the past year was only one in forty-eight; or, if we make certain deductions, only one in eighty-three.

According to a calculation in the *San Francisco Herald*, the population of that city may be set down at 40,000; and,

considering the total mortality in 1854, as reported by the city sexton, viz., 1,765, the proportion of deaths to the inhabitants is one in twenty-two. But a liberal deduction should be made for those dying at the hospitals, and who had contracted their diseases elsewhere. Taking the estimate of the Herald, we set these down at 480, which, deducted from the apparent mortality, would make the actual number of deaths in the city proper 1,285.

The proportion of deaths to the population would be one in thirty-one. In any light in which the comparison may be considered, the greater salubrity of Sacramento, during the year 1854, must be at once acknowledged. To make the contrast more exact, perhaps we should only deduct from the mortality of Sacramento the deaths among Chinamen, occurring from the same causes that were observed among this class of immigrants at San Francisco, and in the same months, viz., twelve.

If we take this from the apparent mortality of Sacramento, the ratio of deaths to the population would be one in fifty-one, or a little more than one half the ratio observed in San Francisco. On a previous occasion, the comparison with other years gave us a like relative result.

Notwithstanding the existence of facts like these, placed by the journals of the day within the reach of every one to make the calculation for himself, erroneous views are yet entertained, even within the limits of the State, upon this subject. In 1850, and again in 1852, Sacramento was visited by a scourge, which threatened at one time in the former year to depopulate her streets. The remembrance of this dire calamity yet hangs like an incubus upon the sanatory reputation of the city, is indelibly associated with its history, and enters into all computations even of its present salubrity. The pestilential air of cholera even yet contaminates the breezes which fan, by their refreshing breath, the heated brows of the inhabitants, and the south wind, which sweeps up from the broad Pacific, and the north wind, which brings upon its wings the currents fresh from the snowy summits of

the cascades of Oregon, are alike freighted with the subtle exhalations of the plague.

The salubrity of either city might easily be shown to be superior to almost any other large city in the world, as their climatic peculiarities are immeasurably above any portion of the Atlantic States. Yet, compared with each other, it is but just to admit the evidence of facts in establishing the superior advantages of Sacramento in a sanatory point of view.

As we progress in the review of the portion of the State to which the preceding pages are designed more particularly to refer, we find the subject so rapidly increasing in interest, and embracing so great a variety of topics, that we have already extended our remarks beyond the limit assigned to them. We believe that in the main, and as far as they extend, they may be found to convey a faithful portraiture of the climate during the period they include. We trust they may at least serve to correct some of the erroneous opinions entertained of the climatic characters of the Sacramento Valley, however imperfectly they may have portrayed its natural beauties and intrinsic excellences. It is no vain assertion, it is no unsubstantial theorem, to say, that in all that is adapted to advance the happiness, to secure the comfort, to expand and improve the physical organization of a population—in short, in all that can make life a blessing, and add to existence its serenest joys, no climate or region of which we have any knowledge can excel that of portions of the State in which we live. In it may be found almost every variety which the world affords, from plains burning beneath a tropical sun to the ice-bound cliffs and impassable snows of the Sierra Nevada. Spread over its vast extent of territory are some of the most fertile valleys in the world; fields rich in an exuberant harvest of agricultural productions, unexcelled in abundant fruitfulness, and fragrant with the perfume of innumerable flowers. Here the vine spreads its luxuriant branches, and multiplies its delicious clusters, unchecked by the frosts of winter; and here too the fig, the

lemon, the olive and the orange expand their fruit beneath the genial sun. Side by side, the miner and the husbandman may dig the earth, and each, according to his own desires, may reap the harvest, while every where balmy breezes cool his brow, and health invigorates his energies. In a word, in fertility of soil, in the intrinsic elements of wealth, in the salubrity of the atmosphere, in the agreeableness of the seasons, the State and the climate are infinitely superior to those of any other section of the United States, and unexcelled by any in the world.

SACRAMENTO, (Cal.), April 4th, 1855.

ART. II.—*Remarks on the Invariable Existence of a Premonitory Diarrhœa in Cholera.* By DAVID MACLOUGHLIN, M.D., of London, England.

IN the number of the *New York Journal of Medicine* for January, there is an article published by Dr. Hutchison, in which my name is mentioned with reference to the inquiry into the invariable existence of a premonitory diarrhœa in Cholera.

As the question whether there is, or there is not, invariably a premonitory diarrhœa in Cholera, is one of science, and one of the most important connected with the pathology of the disease, permit me to solicit the favor of a place in your Journal for my answer to Dr. Hutchison's six cases, which he has brought forward to prove that Cholera is not invariably preceded by a diarrhœa—so that the readers of your valuable periodical may be the umpires between this writer and myself, and may be enabled to decide which is right.

When Cholera first attracted attention as an epidemic, the vomiting, spasms, &c., the stage of pain alone attracted attention; the stage of diarrhœa, which was sometimes noticed, was considered as an epidemic, and was supposed only to weaken the patient and thereby render him more liable to be acted on by the Cholera poison.

Thus cholera was supposed to be an entity, a disease *sui generis*, independent of, and a superfœtation on, diarrhœa. If cholera is an entity, a disease *sui generis*, independent of, and a superfœtation on, diarrhœa, innumerable cases must be found where it has attacked persons in perfect health and free from diarrhœa. And to settle the question, whether cholera is, or is not, invariably preceded by diarrhœa, I undertook the inquiry, and gave the result in a pamphlet, under the title "*Result of an Inquiry into the Invariable Existence of a Premonitory Diarrhœa in Cholera.*"

I beg to repeat here, what I have elsewhere again and again stated, that I have now witnessed five outbreaks of epidemic cholera; that I have sought with all the care in my power, assisted by some hundred medical gentlemen, for a case of cholera without a premonitory diarrhœa; and that, although many thousand cases have been inquired into, not one single case has been discovered as an exception to the rule first laid down, in a letter addressed to the Registrar General, and published in his weekly return of births and deaths on the 24th September, 1853. In this communication it is stated that diarrhœa for a few hours, or for a few days, or for a few weeks, invariably precedes the attack of vomiting; spasms, etc., precede the attack of what, heretofore, was called cholera.

In a subsequent letter, also addressed to the Registrar-General, and inserted in the *Medical Times* of the 7th November, 1853, it was first pointed out what was meant by a premonitory diarrhœa, viz., that it was the time which elapsed from the first liquid evacuation to the first cramps. This was called the premonitory time, and all the evacuations which occurred during that time constituted the premonitory diarrhœa.

Dr. Hutchison has brought forward six cases to show that the above rule, as to the invariable existence of a premonitory diarrhœa in cholera, is not without exceptions; but I hope Dr. Hutchison will forgive me if I say that he has, by his own showing, proved that these six cases had had a

premonitory diarrhœa; for he says that case the first and case the third were attacked "with vomiting and purging a thin, watery fluid." Now every pathologist knows that the colon and rectum of a healthy individual, free from diarrhœa, contains fæcal matter; and every pathologist also knows how difficult it is, even by strong and repeated doses of purgative medicine, to carry off all this fæcal matter, and induce the watery stools.

Since Dr. Hutchison says nothing of the presence of fæcal matter in the evacuations, we must infer the fæcal matter had been washed away by previous evacuations; and therefore, by Dr. Hutchison's own showing, his patients must have had a premonitory diarrhœa.

In case the second it is said that the person was seized with severe vomiting and purging, and it is added that the patient had no cramps.

Here the existence of a diarrhœa cannot be doubted, but no pains appears to have been taken to ascertain the existence of cramps, so as to mark the cessation of the premonitory stage, and the beginning of the stage of cramps, &c. Because an individual does not scream out, or does not say that he does or does not suffer pain, we surely must not conclude that he has no spasms in his fingers and toes, or so slight as not to excite his attention, and which can be ascertained only by carefully watching these extremities. Besides, it must not be lost sight of that females endure pain with greater fortitude than males. And it must not be forgotten that the degree of spasms in cholera ranges from emprosthotonos or opisthotonos, to the slightest possible sudden contraction and sudden relaxation of the muscles, and which, I repeat, cannot be discovered but by watching the fingers and toes of the patient.*

Therefore, as Dr. Hutchison has not told us whether he

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*In Case the 8th, in the *Result of an Inquiry into the Invariable Existence of a Premonitory Diarrhœa in Cholera*, the child gave no evidence, by crying or complaining, that she had spasms; but the mother, by watching the fingers and toes, saw that she had spasms.

had or had not carefully watched, or caused to be carefully watched, whether the fingers or toes were or were not suddenly contracted by spasms and as suddenly relaxed, it cannot be admitted that he is authorized to say that his patient had no spasms, and that therefore it was a case of cholera, without a premonitory diarrhœa, and without spasms.

In the fourth, fifth, and sixth cases Dr. Hutchison admits that each had a premonitory diarrhœa for an hour; but I hope that the Doctor will forgive me if I say that these cases are not reported in such a manner as to satisfy the mind that they were in perfect health, and free from diarrhœa at the time they are reported to be attacked with vomiting and purging. Nothing is said about their usual habit of body, whether they were accustomed to have one or two evacuations daily, or one only every second, third, or fourth day; whether the evacuations were or were not for a few days previous of the usual consistence, and whether the patients were or were not annoyed by more borborygmi than usual, and especially between one and five in the morning.

The mere statement of patients that they were perfectly well, that they slept well, that they ate their food as usual, is no proof that they were not laboring for a few hours, a few days, or a few weeks, under diarrhœa. For too often we find that persons who are laboring under painless diarrhœa do not believe themselves ill, because they have no pain; and we find them walking about for amusement, or for business, or employed in-doors at their usual occupations, with the cold, cyanic state of their skin, and with the cold, clammy dew of death all over their body, the heart having ceased to beat, and the blood to circulate.* And yet these persons will say that they are quite well; that they feel as strong as ever, except, possibly they may add, that they cannot speak so loud as usual; and possibly in a few minutes after these persons are struck down by spasms, vomiting, etc., and cease to breathe in three, four, or five hours after, to the astonishment of all who are not aware of the insidious advance of the disease.

* In such cases I have opened the femoral and brachial arteries without obtaining a flow of blood.

Therefore, as Dr. Hutchison has not entered into the detailed statement of the previous health of these three individuals, prior to the time he says they were seized with vomiting and purging, we must conclude that he has not shown that his patients were perfectly well, and free from diarrhœa up to the time he says they were attacked with vomiting and purging. And therefore he has not shown that his patients had a premonitory diarrhœa for one hour only.

In conclusion we must say:—

1. That cases first and third had, by Dr. Hutchison's own showing, a premonitory diarrhœa.

2. That case the second had a diarrhœa; but no care was taken to ascertain the existence of spasms so as to mark the premonitory stage, and the stage of cramps, etc.

3. That cases fourth, fifth, and sixth, had each a premonitory diarrhœa for an hour, by Dr. Hutchison's own admission; and, further, the report of these cases are such that they do not justify the conclusion that those individuals were in perfect health, and free from diarrhœa, before the moment at which they are said to have been first attacked with vomiting and purging. And

4. That we must therefore conclude, that these six cases form no exception to the rule laid down, that Cholera is invariable preceded by a diarrhœa for a few hours, a few days, or a few weeks.

I wish to add that, since the publication of the "*Result of an Inquiry into the Invariable Existence of a Premonitory Diarrhœa in Cholera*," epidemic Cholera has again raged in London, and that I have again resumed the inquiry into the invariable existence of a premonitory diarrhœa in Cholera. Assisted by thirty-three gentlemen, we have examined one thousand and ten cases, and have found that every case was ushered in by a premonitory diarrhœa.

During this outbreak of Cholera in London, the St. Thomas, the St. Bartholomew, the Westminster, the Homeopathic, the St. Mary's and the University College hospitals,

have carefully inquired into the previous history of each case admitted into their wards, and they have reported that every case had a premonitory diarrhœa.

In 1849 the form of a Register was pointed out at Poplar Union, which was to contain not only the names, residence, &c., but all the details about the previous history of the patients, and especially, whether they had or had not had a premonitory diarrhœa, before the attack of spasms, vomiting, &c. This Register has been most carefully kept by the indefatigable and intelligent clerk of the Union—Mr. Simons—who has daily collected the reports from the medical gentlemen and inserted them in their proper place.

The Register contains the full reports of eight hundred and seventy-two cases of Cholera, all that have occurred in the Union since 1849, and thirty-six medical gentlemen, who attended these cases, have certified that all had a premonitory diarrhœa.

It follows from this mass of facts that the invariable existence of a premonitory diarrhœa in Cholera cannot now be questioned, and henceforth we shall not be told that Cholera is an entity, a disease *sui generis*, independent of, and a superfœtation on, diarrhœa.

We now know that Cholera is the consequence of diarrhœa, the last stage of phlegmoniagy, as spasms, convulsions, &c., are the last stage of fatal hemorrhagy.

34 *Bruton St., Berkeley Square, March* 7, 1855.

Art. III.—*Observations on* Dr. Markoe's *Report of Cases of Dislocation of the Femur, treated by Manipulation.* By W. W. Reid, M.D., of Rochester, N. Y.

The January number of the *New York Journal of Medicine*, for 1855, contains a lucid and able report from the pen of Thos. M. Markoe, M.D., one of the attending surgeons of the New York Hospital, giving a detailed account of fourteen cases of dislocation of the femur, "treated by manipulation alone, after the plan proposed by W. W. Reid, M.D. of Rochester."

It is not my purpose to undertake a critical review of the report before us; but to offer, first, some remarks and suggestions on Dr. Markoe's observations on the dangers of Manipulation, and on the cases adduced in proof, and to correct an error into which he has unwittingly fallen. And secondly, to notice, some points of difference in the mode of operating, as practiced in the New York Hospital, as it is alleged that it was found necessary to deviate somewhat from that recommended and employed by myself; hoping thus, by discussion and a comparison of views, to elicit truth.

After describing in detail thirteen of the cases included in his report, Dr. Markoe proceeds to discuss the merits of the mode of operating by Manipulation—the rationale of the process—its advantages and its *dangers*. On this latter subject, he observes:

"Every thing in our experience thus far seems to indicate, that this method of reducing luxations is as safe, if not safer, so far as the integrity of the joint and its after usefulness is concerned, than reduction by forcible extension with the pulleys. The method, however, is not without its dangers, and these mainly arise from the immense amount of force which can be exercised by acting on the long arm of so powerful a lever as the whole limb, while the short arm has at most a length of three inches. By the *inconsiderate* or *misdirected** action of this lever force, one of three accidents, 'might be produced,' viz.:—The muscles might be torn from their attachments—or the surrounding tissues might be lacerated and contused; or lastly," he observes, "it seems to me very possible that the neck of the bone might be broken by too violent abduction, forcing it against the side of the pelvis."

In reply to this it may be observed, that the whole manipulatory process, as proposed by me, is founded on the principle of relaxing and relieving muscles that are already put upon the stretch. This mode of operating is based upon the discovery, or supposed discovery, of the fact, that the distended or stretched condition of the abductor and rotator

* Italics in all cases are ours.

muscles constitutes the chief impediment to reduction of the dislocation in question, and not the contraction of the extensor and flexor muscles as theretofore taught in all works on Surgery; and that extension applied to the limb by pulleys or otherwise, only increases the distention of the aforesaid abductors and rotators, and consequently, increases the difficulties of reduction, while it greatly enhances the danger of rupturing said muscles, or of fracturing the neck of the femur. But the mode of manipulating as proposed and employed by me, most perfectly avoids all these difficulties and dangers. It is true, that by "*inconsiderate and misdirected action*," accidents may happen. But the same is true of the simplest operations in surgery—even of phlebotomy.

From the experiments and observations which I had made, I had deduced the following propositions and rule:

"1. The chief impediment in the reduction of dislocations is the indirect action of muscles put upon the stretch, by the malposition of the dislocated bone, and not in the contraction of muscles that are shortened, [as heretofore taught].

"2. That muscles are capable of so little extension, beyond their normal length, without hazard of rupture, that no attempt should be made to stretch them further, in order to reduce a dislocation, if it can possibly be avoided.

"3. The general rule for reducing dislocations should be, that the limb or bone should be carried, flexed or drawn in that direction which will relax the distended muscles.

"This general rule will apply to all luxations, but especially to the several varieties that pertain to the hip-joint."

But Dr. Markoe does in fact obviate his own objection, and substantially confirms my own experience, and the principle involved in the foregoing propositions and general rule. He says, "as far as my recollection serves me, and I myself assisted in almost every case reported, *we never have accomplished any thing by proceeding in a direction where great force was required* to continue the movement, *but have always succeeded by finding a direction* in which the mere continuance of the

movement *without force* has brought the head into the proper position." Hence the importance of studying the anatomy of dislocations—of every kind of dislocation to which each joint is subject, before we proceed to operate by mere brute or mechanical force, regardless of the condition or action of the muscles. Otherwise, any house-carpenter or ship-builder, who knows how to apply a tackle or pulley, might operate just as well as a surgeon. So too, before we operate by manipulation, it is equally important to understand the direction and action of the *dislocated muscles*, as well as the position of the bone, unless we would stultify ourselves and proceed empirically and hap-hazard, "by making bending movements of the limb in every possible direction," as was recommended by Dorsey.

But notwithstanding Dr. Markoe had so completely replied to his own objection, or apprehension of danger from manipulation, he immediately after observes: "The above report had been prepared for the press, with the exception of Case 13, which has since occurred, when a case presented itself which offers some points so important in their bearing upon what has been said, that I add the history," etc. Although it is not said that the forth-coming case confirms his apprehensions of danger, but only that it "offers some points important in their bearing upon what had been said." But what had been said related only to danger by manipulation. The reader's mind is therefore prepared to expect an accident, or something that will somehow or other prove reduction by manipulation a more hazardous method than he had been taught to believe it to be. Case 14 is then introduced:—

"A man of good muscular development, forty-two years of age, with dislocation of the left femur on the dorsum, of seven weeks' standing. [This should be noted]. Two days after admission—ether and Reid's manipulation were tried. The head descended as usual, until it came opposite to the lower margin of the acetabulum, but from that point, *as the limb was brought down, it slipped on to the foramen ovale.*

The manipulation was repeated several times with all care, varying the degree of abduction on the various trials, but without success." * * * "Manipulation was abandoned, and the pulleys ordered to be applied. But before this was done, it was thought best to place the head of the bone on the foramen ovale, and from that point to try and reduce it by the usual method recommended by Sir Astley Cooper. The head was accordingly placed on the foramen, and while the upper part of the thigh was grasped by an assistant, and lifted strongly outward, I took hold of the ankle and made extension and abduction. The head seemed not to move at all under this force, and while making *strong abduction,* a crack was heard, every thing became loose about the joint, and on examination it was evident that a fracture of the cervix had taken place, leaving the head in the foramen ovale." Dr. Markoe very frankly admits and says: "It must be observed that the new plan is entitled to none of the blame of the fractured cervix. The accident took place, after Reid's manipulation had been abandoned, and while we were attempting the reduction according to the old established and classical method."

We would direct attention to one more "point" in this case. The report proceeds: "we were all surprised at the slight amount of force which was competent to produce such a mortifying accident." Dr. Markoe seems to have forgotten his own just reasoning and very proper caution, which, he tells us, had been committed to paper on the morning of the very day on which this accident happened. He forewarns us of the danger that arises "from the immense amount of force which can be exercised by acting on the long arm of so powerful a lever as the whole limb, while the short arm has at most a length of three inches." It must be confessed that this accident affords a striking illustration of the danger of *misapplied* force, as well as of the importance of the caution alluded to above. But how slight might be the amount of force employed in this case? Let us make a small calculation.

The length of the limb of a medium-sized man, from the trochanter to the ankle, is about thirty inches. This constitutes the long arm of the lever. From the trochanter to the head of the bone, measuring along the neck, might be two or three inches; but standing off, as it does, nearly at a right angle from the shaft, the point or distance, where the force would be exerted, and which must be estimated in a right line with the femur, would not measure over one inch from the trochanter, and would constitute the short arm, while the trochanter would be the fulcrum. Now the power, in this instance, would be to the resistance to be overcome, inversely as the long is to the short arm of the lever. Hence ten pounds applied at the ankle would be equal to three hundred pounds at the head of the bone; for the long arm is thirty times longer than the short one; that is, 30+ 0= 300. But a muscular man, making "strong abduction" at the ankle, as we are told was done in this case, might exert a force equal to thirty or forty pounds and not be conscious that he was employing any thing more than a "slight amount of force," but which, in fact, would be equal respectively to nine and twelve hundred pounds on the head of the bone. Would this be a force sufficient to fracture the cervix?

But to return to the points in this case, having an important bearing on the danger of fracture by manipulation; we find they are all on the other side of the question, and prove the danger to pertain to the "old-established and classical method." The facts in this case, moreover, go still further to prove what I have endeavored to inculcate as one of the most important points relating to luxations and their reductions, viz., that muscles are so little capable of extension beyond their normal length, that no attempt to stretch them further should be made, when already stretched, as in luxations they must be. Take the case above narrated for an example. The head of the bone is on the foramen ovale; consequently all the muscles about the joint are put upon the stretch, except the quadratus and obturator externus. The proas mag-

nus, iliacus internus, and glutei are the most stretched, and hence the partially flexed and abducted state of the limb. These muscles hug the head of the bone firmly in the foramen, and any attempt to abduct the limb would be resisted with all the power inherent in the glutei muscles, the largest about the joint; and being already stretched, they could not yield; the head of the bone could not move, except to be buried more deeply in the foramen, and be more immovably fixed; strong abduction, therefore, must endanger, either rupture of the glutei or fracture of the cervix. The latter being the weakest, would of course yield first. What is the proper kind of manipulation for the purpose of relaxing the distended muscles in cases of dislocation on the foramen ovale, it is not my purpose now to discuss, but I would simply remark that the mode employed in reducing Case 9, described in the report, with a slight modification, is probably the true one; and as Nos. 8 and 9 were both cases of dislocation on the foramen, and both successfully reduced by manipulation, it is a wonder that the same modes were not attempted in this unfortunate Case 14.

Notwithstanding manipulation was fully exculpated from all blame for the accident occurring in the foregoing case, while the guilt was fully proved against the "old classical method," yet a case had come to light directly to the point. In the closing paragraph of his Report, Dr. Markoe informs us that he had received a note from Dr. Watson, who "speaks of a fact which he [Dr. Watson] says, I have on undoubted authority, viz., from one of the Professors in the school of medicine in Toronto, Ca., that an accident similar to that of Case 14, occurred in that city, while the surgeon was attempting to reduce a luxation of the hip-joint by Reid's method."

I have taken special pains to ascertain the verity of this "fact." And, so far as it is possible, I am prepared to prove a negative—that no such case or accident has occurred in the city of Toronto. Both Drs. Watson and Markoe have been imposed upon. It is due, therefore, to the science of

surgery, to the profession, and to myself, that this false fact should be corrected; the more especially, as I have recently learned that it was published in the *New York Medical Times* for June, 1853.

Soon after I received a copy of Dr. Markoe's Report, I called on my friend, Dr. Armstrong, now of this city, but formerly a resident of Toronto, and requested him to write to some of his medical friends of that city, and ascertain the facts. He did so; and, moreover, having occasion soon after to visit Toronto, he made personal inquiries of several of the Professors, and other prominent medical gentlemen of that city, respecting the case in question. The following letters will show the result of his investigations:

TORONTO, *Feb. 5th*, 1855.

My Dear Doctor,—I have made careful inquiry concerning the case of fracture of the cervix femoris, whilst reduction according to Reid's method was being tried, which case, you say, Dr. Markoe, of New York, mentions as having been reported to Dr. Watson, of New York, by one of the Professors in the school of medicine at Toronto. I am satisfied that no such case ever occurred here. It certainly did not in the General Hospital, and no one here ever heard of its occurrence in private practice; so that in all probability it never did occur. I quite agree with you that it is of very great consequence to settle the points, if possible, conclusively; and I will, therefore, continue my inquiries, and report to you again as to the result.

Believe me, dear doctor, yours truly,

JAS. H. RICHARDSON.

DR. ARMSTRONG, Rochester, N. Y.

TORONTO, *Feb. 15th*, 1855.

Dear Sir,—I have no hesitation in stating that no such case as the one mentioned by Dr. Markoe, of New York, concerning which Dr. Richardson has made inquiry, has occurred in this Hospital during the period I have been con-

nected with it as surgeon, now upwards of eight years. I may also state that it is my belief no such case ever took place in this city. I have never heard of the cervix femoris being broken, or of any other accident having happened during an attempt to reduce a dislocation of any kind in this institution.

You are at liberty to make what use you think proper of this communication, in order to advance the interests of surgical science.

I am, dear sir, yours sincerely,

E. Clarke, F. R. C. S., Esq.
Resident Surgeon, Toronto Hospital.

Dr. Armstrong, Rochester, N. Y.

Rochester, *March 9th*, 1855.

Dr. W. W. Reid—

Dear Sir,—Agreeably to your request made a few weeks ago, I wrote to Dr. Richardson, of Toronto, asking him to make inquiries and inform me as to the particulars of an alleged case of fracture of the cervix femoris, said to have taken place in that city, and referred to by Dr. Markoe in the January number of the *New York Journal of Medicine.*

I have since received a letter from Dr. Richardson, also one from E. Clarke, F. R. C. S., Esq., resident surgeon of the General Hospital of Toronto, both of which are herewith transmitted, and are at your service.

Besides Drs. Clarke and Richardson, with whom I had several interviews during a late visit, I also met Drs. Telfer, Philbrick, Wright, and Aikin, all of whom assured me in the strongest terms that no such case as that referred to by Dr. Markoe had taken place in Toronto. In addition I would merely say, that, so far as I could learn, your method of reduction has not been tried in Toronto.

Very respectfully, yours, etc.,

E. W. Armstrong.

Having thus disposed of the supposed dangers attending the manipulating process *proper*, it is with great deference to Dr. Markoe, and his associates, whose more ample field of observation and experience entitles their opinions to greater weight, that I venture to make a few remarks and suggestions on their mode of operating compared with that of mine.

When discussing the rationale of the process, Dr. Markoe says: "that by flexion of the thigh upon the trunk, the head is caused to pass down and below the acetabulum, and then, by carrying the knee out so as to abduct the limb, the head comes toward the lower portion of the acetabulum, where its margin is least prominent. At this point I wish it to be observed that our mode of procedure varies a little from Dr. Reid's. He recommends, when the head is brought by abduction close to the lower edge of the acetabulum, that by *the rocking movement already described* it be caused to slip in. This is well, and will probably answer in many cases, but *it failed us so completely from the first* that we were led to add *the bringing down of the thigh to the straight position in a state of abduction, still keeping up the rocking motion*, and it has been uniformly in the act of bringing down the limb that the reduction has been accomplished."

"By the rocking movement already described," Dr. Markoe must mean the one which he himself had described in Case No. 1, viz, "a rocking by moving *the leg* backward and forward." I had described an oscillating motion of *the thigh*—not of *the leg*. Suppose the thigh to be flexed at a right angle, or at one a little less or greater, with the trunk, and gently or forcibly abducted, so that the polished, globular head of the bone is poised, as it were, upon the smooth ridge of the great arm of the os ischium, close to the rim of the acetabulum, in which position the pyriformis, gemini, obturator internus and externus muscles are all upon the stretch, what effect would these muscles have upon the head of the bone, whenever *the leg* was carried *outward*, during the aforesaid "rocking motion?" It seems to me

most evident, that they must drag it either downward into the foramen ovale, or backward and upward into the ischiatic notch or on the dorsum ilii, according as the one or the other set of muscles happened to be most irritated and stimulated to contract; and that if the head took neither of these directions, but went into its socket, it did so, as it were, by accident. And this seems to have been the experience of the New York Hospital surgeons. For, of the eleven cases reported as occurring in the Hospital, eight were successfully reduced by manipulation, but only two of these on the first trial. In reducing these eight cases, however, there were at least twenty unsuccessful attempts; the head of the bone slipping downward and backward, without going into the socket, that number of times. A similar accident happened in one of the cases reported by Professor Parker. But what were the several steps of his manipulations, we are not informed. It is simply said, that he employed Reid's method. The failures then were to the successes as twenty to eight, or, if we include the case of Professor Parker, as twenty-one to nine. Failure, therefore, would be the rule and success the exception.

These accidents, it seems to me, must be attributed either to the "rocking motion of the leg"—to the too forcible abduction of the thigh, or to the bringing down of the limb before the head had entered the socket, or to any two or all three of these causes combined.

The method of manipulating, as employed and described by me in the article published in the *Buffalo Medical Journal* for August, 1851, and again in the proceedings of the State Medical Society, February, 1852, was as follows:—"Let the operator stand or kneel on the injured side, seize the ankle with one hand, the knee with the other, then flex the leg on the thigh, next strongly abduct it, carrying it over the sound one, and at the same time upward over the pelvis, by a kind of semicircular sweep, as high as the umbilicus; *then abduct the knee gently*, turn the toes outwards, the heel inwards, *and carry the foot across the opposite*

and sound limb, making gentle oscillations of THE THIGH, when the head of the bone will slip into its socket."

"Gentle oscillations of *the thigh*," while the head of the bone is poised upon a mere point, as before described, and while the foot and leg are directed towards and across the opposite limb, and steadily held in that position, will be found, I apprehend, to be "a procedure that varies [not] a little" from that recommended by Dr. Markoe, viz., a rocking motion of *the leg*, while the thigh is being brought to the straight position *strongly abducted*.

When the thigh is flexed on the trunk, say at an angle of 45°, and is gently abducted, and the head of the bone thus brought close to the lower edge of the acetabulum, if, while gentle oscillations of the thigh are made at the knee, it—the head—does not immediately enter the socket, the knee should be alternately elevated and depressed, thus varying the angle of the thigh. If, by this manœuvre, alternated with the beforementioned oscillating or lateral movement, the head does not enter, we should then cease all motion, and hold the thigh and leg perfectly quiet, for a short period, keeping the former still slightly abducted; and thus give the irritated muscles, ligaments and tissues time to become quiescent, and to accommodate themselves to the new position of the bone. The foot and leg must be kept still also, and firmly directed towards the opposite thigh, for, if we relax or carry it outward, we shall roll the head of the femur away from its resting place and proximity to the acetabulum, and permit, if not provoke the muscles, as already described, to draw it downward into the foramen ovale or backward into the ischiatic notch or dorsum ilii. After a short time we may repeat our attempts as above described, and in all suitable cases — that is — cases of dislocation on the dorsum or into the ischiatic notch, and of not over four to six weeks' standing, we may confidently anticipate a speedy and favorable issue.

The accidents which occurred during the manipulations of Dr. Markoe and his coadjutors, with the exception of one,

in Case 14, were by no means serious; they were in fact discoveries, and afford us valuable lessons and suggestions. It is certainly something new in the annals of surgery, that a surgeon can, at his pleasure, convert any one of the four kinds of dislocation of the hip-joint into any one of another kind. With this additional knowledge, which furnishes us with a choice of position from which to attempt reduction, or, if one fails, to try another, it seems to me, that these heretofore most formidable luxations of the femur may hereafter become, when the modus operandi by manipulation is better understood, quite trivial affairs, and be reduced with as much, if not greater facility, than now obtains in reduction of the shoulder joint.

I feel unwilling to dismiss this subject, without adverting once more to the inapplicability and detrimental action of direct traction on the femur by pulleys, Jarvis' Adjuster, or any other power, for the purpose of reduction of the hip-joint. The facts presented in this report of Dr. Markoe alone, to say nothing of hundreds of similar ones, that may be collated from medical journals and works on surgery, would be enough to make men (keen observers and acute logicians on other subjects), pause and inquire, if they were not utterly blinded by authority and custom. In Case 1, Jarvis' Adjuster was applied, and "broke on the first trial," without producing the least effect on the joint, "although the patient was etherized to the extent of complete relaxation." In Case 13, "the pulleys were faithfully and for a long time employed. The head descended, but would not enter the socket. * * * Jarvis' Adjuster was thoroughly tried, until the steel shaft bent, but without success." Bars of steel, brass and iron broken in stretching the living muscles and tissues!! The following case occurred in this country, some eighteen miles from Rochester, in the fall of 1852. A young man, twenty-one years of age, dislocated his left femur on the dorsum. On the day following, two surgeons, with the aid of five or six men, made extension for a long time, and supposed they reduced the bone. Some five weeks after-

wards, three other surgeons were consulted and pronounced the bone out. The patient was put into a machine—a kind of windlass—and extension was continued for several hours, but without success. A few days afterwards, he was bled and put under the influence of chloroform, when Jarvis' Adjuster was applied, but it bent or broke, without effecting any thing. A day or two thereafter, he was again bled and took chloroform, when the pulleys were applied and extension kept up, as I am informed, for several hours. But all to no purpose. The bone is still out and the young man a cripple for life, after enduring tortures little short of crucifixion. On the forty-seventh day, about *seven weeks* after the accident, he was brought to me. At this time, the limb was three inches shorter than the other; the muscles of the whole limb, but especially about the hip, were flaccid and emaciated, so that the limb was considerably smaller than its fellow; rotation and abduction were quite free; the head of the bone could be distinctly felt on the dorsum. In the presence of, and assisted by several medical gentlemen of this city, I endeavored to reduce by manipulation. Several attempts were made by myself and others, and persevered in for two hours, but without avail. The head of the bone could be both felt and seen to mount upon the edge of the acetabulum, but could not be made to enter. It was quite apparent, that the capsular ligament had healed and formed new and strong attachments around the neck of the femur, which attachments prevented the entrance of the head, and which it were unsafe to attempt to rupture by mere force applied to the limb. And if the head of the bone had gone in, carrying the ligament before it without rupture, in the form of a cul-de-sac, it is quite certain that a spontaneous re-dislocation, as it were, would have occurred in a short time afterward; as was probably the fact, in case No. 3 of Dr. Markoe's report—a case of *twelve weeks*' standing. In his unfortunate Case 14, in which fracture of the neck happened, and which was of *seven weeks*' standing, there were, no doubt, strong attachments of the capsular ligament, which prevent-

ed the head of the bone from entering the socket, for it could be made to move freely around the rim of the acetabulum, but would not mount over it. Quere: Would not the true mode of operating in cases of this kind be to make an incision down to the head of the bone, and open the capsular ligament, sufficient to admit the return of the head into its place?

But to return from this digression, which seemed necessary in order to complete the history of the foregoing case, I repeat, that traction on the femur is force misapplied—is unphilosophical and absurd, contra-indicated by the anatomy of the dislocated joint, and by the plainest laws of mechanics. This I have attempted to demonstrate in former papers, and shall not dwell on it now, but simply observe, that it seems to me impossible for any one, having the slightest knowledge of anatomy and of mechanical philosophy, to fail to perceive, that extension of the thigh, when dislocated in the dorsum or into the ischiatic notch, must powerfully abduct it, and therefore cause the already distended muscles, especially the obturator externus, to bind the head of the bone more firmly behind the brim of the acetabulum, and thereby prevent its mounting over it, except at the expense of the rupture of muscles, or ligaments, or both. The amount of power exerted by pulleys, Jarvis' Adjuster and similar machines, is unknown. It must be very great, but how great has never been carefully estimated.

The impediments to reduction by direct extension of the femor, I have heretofore considered to lie chiefly in the resistance of the six rotator and abductor muscles, which are put upon the stretch, and which are incapable of any further extension without danger of rupture. From the experiments which I had made on muscles, I had drawn the conclusion that they were incapable of any practicable degree of elongation beyond their normal lengths, without rupturing them more or less. Since the publication of these views, Prof. E. M. Moore informs me that he has been in the practice, during his terms of lecturing on surgery, of

exhibiting before the students, on the cadaver, both modes of operation—that is, by extension and by flexion or manipulation—that one of his illustrations consists in removing all the muscles about the hip-joint, then puncturing the capsular ligament, and dislocating the bone on the dorsum. He says, when this is done, the limb always assumes the same position of *abduction* and *inversion* that it does in the living or dead subject, when the muscles are in situ and entire. Having dislocated the bone as above described, he now attempts to reduce, by extension made in the manner recommended by all surgical writers. The extending cord is put into the hands of one or more students, and Dr. Moore says he has always found that the strength of *two men* were necessary to bring the bone into place, although there was nothing to prevent it but the remains of the untorn portion of the capsular ligament, which is stretched across the acetabulum and binds the bone behind its rim. While on the other hand, when reduction was effected by manipulation, no more force was required than was sufficient to support the weight of the limb, to flex and rotate it gently while the head was resting on the edge of the acetabulum; to do all which required much less than the whole strength of one man. But he observes, that the head never enters the socket, even under these favorable circumstances, without tearing up another portion, more or less, of the capsular ligament from its attachment at the edge of the acetabulum. He states moreover a fact, which I had myself before observed, that when the muscles about the joint are entire, if the femur is flexed on the trunk and abducted, the glutei muscles are stretched, and then their broad tendons compress the trochanter, and powerfully assist rotation and abduction, to urge the head of the bone into the socket; very much as might be done by the hands, if placed over the trochanter, but much more efficiently. But if the thigh is brought down to a right angle or lower, the tendons of the glutei are relaxed and we thereby lose all the advantage which they would otherwise afford us—another cogent reason for not

bringing down the limb towards the straight position, before the head enters the socket.

The experiments which I had made for the purpose of determining the extensibility of muscles, were made on those of sheep, which had been killed from one to two days —that is, on the dead, but still fresh muscle. Soon after I had made known the results and my views, Drs. Bly and Moore performed a series of experiments on the living muscle, viz.: of wethers two years old. The animal was suspended in strong canvass cloth, with one fore leg projecting through a hole, rendered unyielding by firmly binding or hemming the edge. The skin was removed from the knee, for the space of six inches. The ligaments of the joint only were divided, the muscles being left intact; weights were suspended from the foot, and added by degrees, fourteen pounds at a time. Four different experiments were made on as many different animals, with very nearly the same results. The following tabular view of the fourth experiment will explain the whole :

No. of lbs.	32 scds. In.	No. of lbs.	32 scds. In.	Remarks.
9	2	163	13*	The second and fourth columns show the distances in thirty-two second parts of an inch, to which the articulating surfaces were separated on each addition of fourteen pounds.
23	4	177	14	
37	5	201	14*	
51	6	215	15	
65	7	229	15*	
79	8	243	16	
93	9	257	16*	
107	10	271	17	
121	11	285	17*	
135	12	299	18	
149	13	313	18*	
		327	18½	

* Thirty-two secondths of an inch, or about five-eighths.

After two hundred and forty-three pounds had been added, the whole were removed, when the parts regained their normal position. After these had been replaced, and more added, sixty pounds were removed at a time, the parts always regaining what they had lost by the addition of that number of pounds. But when three hundred and twenty-seven had been reached, the leg of the living sheep was completely torn off at the shoulder joint. This happened in every in-

stance, with a weight not varying over fifteen pounds from three hundred and thirty, being sometimes less, sometimes greater. This rupture always took place at the shoulder, never at the knee, although the ligaments of the latter were divided, while those of the former were entire. From these experiments it will be seen that the living muscles were extended about five eighths of an inch beyond their normal length, and regained or contracted to their original position. But Dr. Bly acknowledges that the joint was not very firm; that the muscles seemed rather lax. The results of his experiments compared with those of mine are so diametrically opposite, it is evident that one or the other must be in error —that, contrary to my conclusions, muscles must be elastic, and capable of extension beyond their normal length—and if so, then the distended muscles of a dislocation constitute, not the primary but the secondary impediments to reduction, while the ligaments constitute the primary and chief. This subject needs further investigation by others, who have more ample facilities.

One word on the use of ether and chloroform in reduction of luxations. Believing, as I do, that muscles are the principal agents in producing dislocations, while the blow received is but secondary—that is, that the muscles being in a state of active contraction by force of the will, at that instant a sudden blow, taking the will by surprise, is received on the limb, and propelling it in the same direction which the contracting muscles are giving it, the bone is thrown out of place before the opposing muscles have time to resist this new impulse. I am therefore constrained to believe, also, that muscles may be made, and are, in fact, our most efficient assistants in reducing by manipulation. Consequently "etherization to the extent of complete relaxation," instead of being an advantage, is a detriment, in just so far as it prevents the contraction of the muscles required to replace the bone. Might not this have been one of the causes of so many unsuccessful attempts at reduction, which are narrated in the report of Dr. Markoe? Etherization was

employed in every case reported as occurring in the Hospital, except No. 5, and that was the only one which was reduced without difficulty or mishap. The pain produced by manipulation is too trifling to require an anæsthetic of any kind. These remarks, of course, are not intended to apply to cases of luxations complicated with other severe or painful injuries, nor to reduction by forcible traction or mechanical means.

Before concluding, I beg permission to express my acknowledgments to the New York Surgeons, for the complimentary manner in which they have been pleased to speak of my efforts to introduce to the notice of the profession, this mode of reducing dislocation of the femur. It is not only gratifying to me, but honorable in them, and will doubtless be duly appreciated by the profession generally, that they have, in the spirit of true philosophy, undertaken an investigation, which the importance of the subject demanded, and have thus, by their more ample facilities and experience, put to the test, and in a good degree have established, the merits and advantages of this mode of operating. Especially is it honorable in them, when it is evident, that in certain quarters the whole thing is ignored, and there is manifested a spirit of conservatism quite as absurd as that of some forms of radicalism. And that, too, where the operators could not plead ignorance of the facts and proofs that have been adduced in favor of the method. With such men, nothing good can come out of Nazareth. The world composed of such only would remain forever *in statu quo.* The discovery of new truths, advancement in science and progress in the arts would come to an end. "The wisdom of the world would die with them."

ART. IV.—*Remarks on Hemorrhage from the Umbilicus of Infants; with a Table of Seventy-eight Cases.** By STEPHEN SMITH, M. D. Surgeon to Bellevue Hospital, New York.

THE separation of the umbilical cord in new-born infants is rarely attended with difficulty or danger to the child.

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* Read before the Society of Statistical Medicine, New York.

The process, when healthily performed, is purely physiological, and for its perversion requires the interposition of some pathological condition.

One of the most important accidents to which this change is liable is hemorrhage. The slighter forms of hemorrhage from the umbilicus which often occur immediately after the separation of the cord, but are readily controlled, are noticed by most writers on the diseases of children. They can hardly be considered dangerous, and for the most part require but little attention.

There is a form of hemorrhage, however, occurring at the umbilicus of new-born infants of a much more grave and serious character, from its almost universally fatal termination. Our own attention was called to it by having in quick succession two fatal cases in practice; and it was with a view to its illustration that the accompanying statistics were soon after collected. Several highly-interesting papers have recently been written upon umbilical hemorrhage; and though most writers have collected a number of cases, and given the results of their analysis, no one has been to the trouble of tabulating them, and thus rendering available to others the data of their conclusions. This we have attempted to do, and the accompanying tables form the basis of the following observations.

Hemorrhage from the umbilicus is a rare affection, as is shown by the meagreness of its literature. It is scarcely alluded to by systematic writers, and rarely as an accident of which they have personal knowledge. In the Dublin Lying-in-Hospital, no cases are reported in a period of twelve years, during which there were 6,654 births.

The records of private practice confirm the opinion of the infrequency of this disorder. While it is common to meet with a slight bleeding from the umbilicus after the separation of the cord, the oldest practitioners frequently have not met this severe and intractable form. But its occasional occurrence, and especially its great fatality, render it well worthy

of careful study, in order to arrive at settled principles of practice.

ETIOLOGY.—The consideration of the influence of sex, health of parents, labor, condition of child, condition and changes of cord, etc., in the production of umbilical hemorrhage, embrace most, if not all, the facts bearing upon the important question of its etiology.

Sex.—The sex most liable to this accident is the male. Statistics show that about two thirds of all the subjects of umbilical hemorrhage belong to this sex. It would appear, also, that it is more fatal among males than females.

Without being able to offer any explanation of the liability of one sex over the other to this affection, we may remark that the fact appears to be established by observation, that where the hemorrhagic diathesis exists in families, it is manifested more frequently in the male members. Some interesting cases exhibiting this tendency were reported by Dr. Rush. In one family which consulted him, the six male children were all "bleeders," of whom four died young, from slight injuries resulting in profuse hemorrhage. Dr. John Otto,* of Philadelphia, has related some singular examples of this hemorrhagic tendency in males. Dr. John Hay,† of Mass., has traced a family exhibiting this idiosyncrasy through several generations, and whenever the diathesis manifested itself, it was almost exclusively in the males. Dr. Hughes‡ attended a family of this class, from which he gathered the following among other particulars: that the females, though in no instances sufferers from this predisposition, have, nevertheless, invariably transmitted it to their offspring. The same fact has been frequently noticed by German physicians. Dr. Riecken§ mentions a family in which three boys and one girl died of hemorrhagy; of the grandchildren, three boys bled to death, but no female. Dr. Du Bois also speaks of a family of five boys and one girl; the latter never exhibited any

* *Medical Repository.*

† *New England Journal*, 1814.

‡ *Transylvania Medical Journal*, April, 1834.

§ *Edin. Med. & Surg. Jour.*, July, 1831.

symptoms of hemorrhage, while four of the former were bleeders, three having died in this manner. Many similar examples may be gleaned from medical periodicals, showing quite conclusively that much of the disparity of sexes in the liability to the form of hemorrhage under consideration, is due to an unascertained predisposition of one sex to that condition of system leading to this affection. It is quite remarkable also that this diathesis should be transmitted through the female branch without being exhibited in them personally. Some striking examples are also seen in this collection, as in the cases reported by Mr. Pout (33, 34, 35), Mr. Ray (47, 48, 49,50), and Dr. Hooker (38, 39, 40, 41). In the cases copied from the *Med. Chir. Rev.*, (53, 54, 55, 56), the mother was delicate, and suffered much from profuse menorrhagia.

Health of Parents.—The relation which the previous health of the parents has to this affection of the offspring is not very directly traceable. As far as noticed it is generally stated that the mother's health was good, and, in many instances, other children of the same parents have been healthy. From this we may justly infer that often, perhaps generally, the system of the child is alone at fault. Where, however, several children of the same family successively fall victims to hemorrhage, there can be no doubt of the transmission of a hemorrhagic diathesis. Even then the health of the parents, if noticed, is generally given as good. We have already noticed the fact that females may transmit the hemorrhagic idiosyncrasy in its utmost intensity to their children, and still, in appearance, themselves be healthy. Until, therefore, we can obtain more definite knowledge of the conditions on which the hereditary transmission of disease depends, the precise influence which the parents' health exerts over the health of the child can not be estimated. The parents may, however, confer upon the child a syphilitic taint (cases 21, 76), which would predispose it to this accident, and thus the bearing of the health of the parents may be direct upon the child.

Effects of Labor.—It does not appear that parturition has any causative relation to umbilical hemorrhage. Where

it is mentioned, the labor has almost invariably been easy and uncomplicated.

Condition of the Child previously to the Occurrence of Hemorrhage.—There is little in the previous condition of the child to indicate the occurrence of hemorrhage from the umbilicus. At birth, the infant is generally well formed, and has the appearance of health. Within two or three days, however, icteric symptoms generally appear, such as sallowness of the skin, and clay-colored stools; and although infantile jaundice is ordinarily not a grave disease, it so often precedes or accompanies umbilical hemorrhage that it may be considered a symptom deserving of careful attention. A much more serious symptom is the appearance of purpura, which at once indicates a condition of system strongly predisposing to hemorrhage.

In a large number of cases there appears to exist an hereditary tendency to hemorrhage, while in others, though no such diathesis seems to have been transmitted from parent to child, a pathological condition exists which is equally as fatal in its tendency as the former. In these two classes of cases, however, there is one symptom so generally present that it may be considered as referring them both to the same general pathological state. This is jaundice followed by purpura. This jaundice may, as we have seen, depend upon closure of the common and cystic ducts (7, 10, 12) and thus admit of easy explanation; in other cases, it depends upon conditions not susceptible of demonstration, or remedy; in either case it seems to be often the predisposing cause of this form of hemorrhage. Cheyne, who reports the first published case which we have met, introduces it as an example of the fatal effects of infantile jaundice, depending upon what he terms "an original and incurable malconformation of the liver."

The effects of bile upon the blood and the condition of the blood in the hemorrhagic diathesis are facts not well established, yet pathological chemistry in a certain degree sustains the observation that the former is in some measure

allied to the latter. Families in whom the hemorrhagic diathesis exists are well known to be very subject to jaundice, while persons suffering from severe jaundice are liable to hemorrhages. As far as chemical investigations of the blood in these two conditions of system have been carried, they show a diminution of the normal amount of fibrin, and an excess of the salts. This state of the blood predisposes to hemorrhage, and affords as satisfactory an explanation, as the present state of pathological science will admit, of the tendency to hemorrhage in these two conditions of system.

Changes in the Cord and its Vessels subsequently to Birth.—The process of desiccation, when healthily conducted, is purely physiological. It commences immediately after the severance of the cord, and is ordinarily completed on the fifth or sixth day. Billard, who describes these changes more minutely than any other writer, concludes "that the separation of the cord is the result of the constriction which the indurated gelatine exercises upon the umbilical vessels at the umbilicus, and also of the continual pulling from this narrowed point of the cord, so dried and fragile." A slight suppuration generally follows the separation of the cord, which terminates in firm cicatrization about the tenth day.

The change which the vessels of the cord undergo are still more important in the consideration of the hemorrhage which may take place from the navel. The following facts relating to the obliteration of the umbilical arteries, are the results of the investigations of M. Lorain, as reported by M. Roger.* They are the most recent investigations of this subject, and are highly interesting.

"There are two modes of obliteration: in the first, the obliteration is provisional; it suffices for the present necessities of the new-born child, and guards against early accidents; it consists in a clot which forms a few hours after birth. This coagulum is formed in children who have not lived more than four or five hours; it commences sometimes in the arteries of the cord, and sometimes at the junc-

* *Virginia Medical and Surgical Journal*, Oct. 1853.

tion of these vessels with those of the abdomen; it is black, of mediocre consistence, adhering but slightly to the walls of the artery, and is at first very short; subsequently it is elongated by the successive deposition of new molecules, until, at the end of the second day, it occupies two thirds or half the length of the artery, commencing at the umbilicus. It is then firmer, denser, and more adherent to the walls of the vessels. During the succeeding days this coagulum acquires greater consistence, and loses at the same time its black color, and assumes a fibrinous aspect; it becomes more and more regularly cylindrical. In proportion as the clot contracts, the artery narrows. This may be called the provisional mode of obliteration."

"The other consists in the complete occlusion of the artery at its umbilical extremity, an occlusion which occurs in the following manner: The extremity of the artery is retracted from the navel, contracts, and presents a conical extremity; this hardly takes place before the twenty-fifth or thirtieth day; at this date the calibre of the artery is very small, and is occupied by a fibrinous clot, white, dense, regularly cylindrical, and closely adherent to the arterial coats. This is the true obliteration."

If we apply the facts already noticed in regard to the effects of bile upon the blood, and the condition of the fluids in a system tainted with a hemorrhagic or syphilitic dyscrasia to the physiological changes in the cord, as established by the investigations of Lorain, we may be able to explain why hemorrhage of an intractable character should occur at the umbilicus in purpura, and the severe forms of infantile jaundice. The child for the first two or three days having the appearance of health, the normal changes in the cord are in progress, the vessels retract and contract, and the plug which fills their cavity effectually prevents all hemorrhage. If the child is already suffering from a dyscrasia, as syphilis or hemorrhagia, this process is but imperfectly conducted. The direct effect of the bile upon the blood by the occurrence of jaundice at this period, would be to interrupt these

changes. If persistent, and especially if purpura complicated the jaundice, it would be destructive of the work partially completed.

Separation of the Cord.—Bouchut* remarks: "Up to the present time, hemorrhage has always occurred after the separation of the cord." This assertion is not based on facts. Hemorrhage of the most intractable form may occur about the insertion of the cord before its detachment, both from a traumatic and idiopathic cause. But generally the cord has separated, and the umbilicus undergone complete or partial cicatrization, before hemorrhage has taken place. There seems to be nothing in the period of desiccation, symptomatic of hemorrhage. The cord generally separated on the 5th or 6th days, and this, according to Churchill's statistics, is the ordinary period in an aggregate of 200 cases. There is one condition connected with the process of cicatrization of the umbilicus which is worthy of attention, and that is, the occurrence of a granulating or fungoid surface. This fungus is often persistent, and liable to severe hemorrhage, and therefore demands early attention.

Mr. Ward (*Med. Times*) believes this fungus is due to an excess of vitality in the *vasa vasorum*, which, by preventing cicatrization, is liable on slight injury or ulceration to expose the cul-de-sac of the vessel beneath, and thus give rise to hemorrhage.

Date of Hemorrhage after Birth.—The period within which umbilical hemorrhage occurs (within the first eighteen days) and the open state of the vessels during this time, is evidence that, though their condition is not abnormal, still to their patulous state is due this particular form of hemorrhage. And of more importance is the fact, that hemorrhage generally occurs during the second week,—a period when the closure of these vessels and the cicatrization of the umbilicus is in progress.

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* *Practical Treatise on the Diseases of Children and Infants at the Breast, &c.* By M. BOUCHUT, translated by P. H. BIRD, ESQ. London, 1855.

Post-Mortem Appearances.—It does not appear from the investigations of Lorain that a patulous state of the umbilical vessel for two or three weeks, at least, after birth is a pathological condition. These views are confirmed by others. Radford* says of the umbilical vein: "From my examination of infants after death, I conclude that this vessel is not materially changed immediately after birth." Mr. Ray† also states that in the children which he has examined under the age of one month, or six weeks, he has been able to trace a canal in these vessels. Umbilical hemorrhage cannot then be considered as arising simply from a patulous state of these vessels, and the frequency with which this condition seems to have been found in the post-mortem examinations here recorded, has no particular significancy. Nor has there been any thing revealed by dissection, if we except the obliteration of the common duct, which has a bearing upon the etiology of this affection, and we need not further allude to them.

In regard to the etiology of this accident, we conclude,—

That sex has an important but unexplained influence, two thirds being males.

That the most common cause is, a vitiated state of the blood due to jaundice, or a transmitted hemorrhagic or syphilitic dyscrasia.

That a patulous state of the umbilical vessels is not, in these cases, a pathological condition.

That there are no reliable precursory symptoms of an attack of umbilical hemorrhage.

PROGNOSIS.—The prognosis in umbilical hemorrhage depends upon its cause. When the cord is partially torn from its connections, the bleeding has been so free that the child has perished before proper means could be instituted for its arrest. As these cases, therefore, depend much for their successful issue upon the promptness with which means are employed to arrest the hemorrhage, their fatality is decided

* *Edin. Med. and Surg. Journal.* Vol. 38.
† *Med. Gaz.* Vol. 43.

principally by this circumstance. Two of the three cases (77, 78,) here reported, proved fatal.

Hemorrhage from the umbilicus, as it more often occurs, accompanied with symptoms of derangement of the liver, or a cachectic state of the system, is a disease of great fatality.

Radford says: "The result of umbilical bleeding in my practice has been invariably fatal, with the exception of the case (3) just related; and, from an extensive inquiry made amongst my professional friends, I have ascertained this to be the usual termination."

The period at which death takes place varies with circumstances; where the cord is violently ruptured, (case 77,) death may follow as quickly as in the most fatal form of traumatic hemorrhage, or it may be delayed to the 22d day, (case 67,) or even for weeks, (case 14.) Where life is so greatly prolonged, however, the hemorrhage from the umbilicus has rarely persisted, and the fatal termination has been due to the complication of purpura, (cases 14, 16, 65,) or some other disease, (case 15.) But the majority of cases prove fatal within forty-eight hours.

TREATMENT.—The great variety of measures resorted to for the suppression of umbilical hemorrhage is good evidence of the difficulty attending its successful treatment. The general failure of remedies, however, is due, not so much to any difficulty in their successful employment or application, as the condition of system existing which predisposes to the attack and which would render abortive any means adopted. The internal remedies therefore should constitute an important part of the treatment. These should be mild cathartics adapted to relieve the liver and portal circulation, and remedies addressed to the existing state of system. The former should not be omitted in any case, as costiveness and clay-colored stools is one of the earliest symptoms of that derangement of the liver, preceding jaundice and fatal hemorrhage; the latter are appropriate in purpura, the hemorrhagic tendency, &c. Of cathartics, calomel naturally suggests itself as best adapted to meet the indications; in addition taraxicum, sulphate of soda, &c., have been recommended;

of anti-hemorrhagic remedies, sulph. acid, muriated tincture of iron, gallic acid, &c., will be useful with stimulants and tonics to sustain, anodynes to quiet the system.

Compression is made with the finger, with a graduated compress, or with compressed sponge. Although the results of this method of treatment are not very flattering, yet, as it is easily applied and almost invariably arrests the bleeding temporarily, when combined with an astringent application, it is a valuable means. There seems to be little choice in the method employed, as pressure with the finger, a compress, or the sponge. Complete success may attend their first application, as in case (3), where a slight ulceration has unsealed a vessel; but generally they cannot be relied upon for a permanent arrest of the bleeding, unless used with styptics. Much of this failure is due to the yielding walls of the abdomen, which afford but slight resistance, and in spite of the firmest judicious bandaging, are constantly in motion from the crying of the child. Pressure by means of a lady's thimble is an ingenious method, and proved successful (24); scrapings of sole leather with compression (58) was also successful.

The *styptics* used are acetate of lead, sulphate of zinc, tannin, lead, alum, matico, solution of gun-cotton, turpentine, muriated tincture of iron, creosote, powder of nutgalls, etc., etc. These remedies have been employed alone, and with compression. They are beneficial when there is a granulating surface.

The *caustics* are the potential and actual. The nitrate of silver has been very often employed, but with very questionable advantage. When the eschar which it forms falls, the opening is made still larger, and the bleeding is still more free. The only way to use it even safely is in connection with compression or styptics (57.) The actual cautery has been used sufficiently to test its value, which is decidedly negative. In no case was it successfully used, while once (66) it seems to have greatly increased the hemorrhage.

The *ligature* yields by far the most satisfactory results.

In nearly all cases it has arrested the hemorrhage, although the patient may have subsequently died from the persistence of the constitutional disease. It is, indeed, the measure which we should rationally suppose would be most apt to succeed, as from the nature of the hemorrhage it is necessary to secure all the umbilical vessels firmly and permanently. Where there is a fungus growth it is best treated by drawing it out, and applying a ligature directly at its base (51), or by the use of styptics and compression.

Other means have been used, as plaster of Paris (37,65,69), injections of the umbilical vein with perchloride of iron (31), and the immediate ligature of the bleeding vessel. These measures are of very doubtful propriety, for, if positive injury is not done, valuable time is certainly lost. The plaster of Paris is a most mechanical invention, and illy adapted to secure the permanent closure of the umbilical vessels. An injection of the umbilical vein with the perchloride of iron was performed by Dr. Otis, of Virginia (31), and seems to have temporarily arrested the hemorrhage. The ligature of the bleeding vessel, as recommended by Radford, was recently attempted by Mr. Willing (37), but unsuccessfully. Considering the condition of the vessels, and the frequently ulcerated state of the umbilicus, we must regard this as an ill-advised operation, and liable to do injury by the exploration necessary to find the vessel. In regard to treatment we conclude :—

That mild but active cathartics, and anti-hemorrhagic remedies, are of the first importance.

That compression and styptics are useful for the temporary arrest of umbilical hemorrhage, but rarely effect a permanent cessation.

That cauterization is injurious except in connection with compression.

That ligature of the umbilicus, *en masse*, with two needles transfixing it at right angles, offers the best chance of permanently arresting the hemorrhage.

NO.	SEX.	HISTORY.	CORD FELL.	DATE OF HÆM.	SYMPTOMS.	TREATMENT.	RESULT.	AFTER HÆM.	AUTOPSY AND REMARKS.	REFERENCE.
1	F.	Child stout & healthy.	6th d.	15th	Third day after birth became jaundiced; this state continued till death.	No mention made of any treatment in the case.	Died.	2 d.	Umbil. vein patulous, but empty; arteries open and contained grumous blood; liver full and firm; ducts pervious.	Dr. Cheyne's *Ess. on the Diseases of Children. Essay 2d*, 1802, p. 8.
2	....	.....	7th d.	7th	.....	Graduated compress; roller and adhesive strip.	Died.	12 h.	Navel sloughy, ragged, dark-colored; vein uncontracted.	Mr. Radford, *Ed. Med. & Sur. Jour.*, vol. 38.
3	...	.....	8th d.	8th	Bled on removing dressings in which cord separated.	Compress and adhesive strip.	Recov'd	.....	.....	*Idem.*
4	M.	Second child, feeble, jaundiced, refused to nurse.	sep.	.....	.....	.....	Died.	.....	.....	Mr. Ray, *London Med. Gaz.*, vol. 34.
5	M.	Same parents; healthy at birth; soon jaundiced.	sep.	.....	.....	.....	Died.	.....	.....	*Idem.*
6	M.	Same parents; healthy well formed, but icterode on third day.	6th d.	10th	Fine undulat'g stream from left to right side; blood bright red.	Zinc oint. on matico leaves, compress with Ruspini's styptic, turpentine, failed. Tried ligature, but bled from puncture.	Died.	46 h.	Umbilical vein, duct and arteries open, but not where tied; fine probe entered vein, which was empty; fibrine in right artery, seemed to be a dilation of arteries like a sac, preventing retraction.	*Idem.*
7	F.	Healthy, but soon icterode; former child had jaundice.	.....	11th	Slight but steady oozing, jaundice intense, purpura over body.	Compress and bandages.	Died.	28 h.	Tissues all tinged with bile; umbil. vein open, other vessels closed; gall bladder distended. Com. duct ending in cul-de-sac.	Dr. Anderson, *Bost. Med & Sur. Journal.*
8	F.	First child, healthy, well formed, labor natural.	3d.	14th	Slight oozing several days; navel healthy; purpura came on.	Compression with finger, lint, spunk, zinc, caustic, single ligature through navel. Passed two needles and ligature.	Died.	6 d.	Bloody dejections from bowels.	Dr. Bowditch, *Am. Jour. Medical Sci.*, Jan. 1836, p. 63.

9	M.	Same parents; large, well formed; bowels costive, urine yellow.	5th	10th	Purpuric spots seen on 10th; navel spongy; oozing of blood.	Compression, tannin, spunk, calomel, oil, salt; actual cautery failed.	Died.	4 d.	Ecchymosis over elbow and occiput; navel natural; vessels closed; liver large, yellow, flaccid; gall bladder small, contracted, empty.	*Idem.*
10	F.	Jaundiced on second day; third child; others healthy.	5th	9th	Urine brown; stools light colored; bleeding after a fit of coughing.	Caustics, compression, acted temporarily.	Died.	10th	Internal organs yellow, except liver, which was soft and full of bile; excretory ducts of liver and gall bladder absent.	Dr. Campbell, *Northern Jour. of Med.*, vol. 1, p. 237.
11	M.	Jaundiced on 3rd day; third child; others healthy.	5th	7th	Hemorrhage continued until 11th day.	.....	Died.	11th	.....	*Idem.*
12	M.	Same parents; fourth child; jaundiced on 3rd day.	6th	7th	Slight oozing.	Compression and astringents; acted temporarily.	Died.	11th	Internal organs bright yellow, except liver and spleen; navel healthy; gall bladder partially filled with bile; common duct plugged with inspissated bile.	*Idem.*
13	M.	Healthy at birth; icterus followed.	5th	14th	Slight oozing at first.	Nit. arg. pressure with comp. and finger, actual cau., alum, mati.	Died.	48 h.	.....	Dr. John Manley, *Lond. Med. Gaz.*, 1850, p. 755.
14	M.	Delicate.	5th	11th	....	Ice, colophony, compression with finger and spunk, nit. argent. failed. Transfixed tubercle with pin and wrapped double thread; bleeding ceased.	Died.	5 w.	Umbilicus healed, vein and left artery obliterated, right admitted probe; orifice in right side of tubercle, from which bleeding took place; purpuric spots in mouth; blood in stomach.	P. Dubois, *Arch. Gén. de Méd.*, Oct. 1849, and *Va. Med. and Surg. Jour.*, Oct. 1853.
15	M.	Healthy.	7th	8th	Ulceration in centre of navel; bleeding free, without impulse.	Pressing with finger, caustic, spunk; colophony failed. Ligature *en masse* with two needles checked it.	Died of enteritis.	12 d.	Umbilical vein and duct venosus collapsed, not obliterated; arteries nearly obliterated.	A. Dubois, *Op. Cit.*
16	M.	Purpuric spots on skin.	.....	14th	Hemorrhage slight; serous; but purpura, diarrhœa and stomatitis came on.	Compression, alum, caustic, &c., controlled bleeding after six days.	Died.	24 d.	Umbil. nearly cicatrized; artr. full of pus and coag., open, vein empty, collapsed; ductus arteriosus nearly obliterated.	M. Thore, *Gaz. Med.* 1848, p. 191.

17	M.	Parents healthy, child plump and healthy.	3d	5th	Jaundice, ulceration of navel, hemorrhage from bowels.	Compression with shavings of sole-leather.	Died.		Bleeding not severe, child apparently sunk from hemorrhage from bowels. No P. M. exam.	Communicated by Dr. S. S. Purple.
18	....	Mother had hemorrhagic diathesie.	.....	.....	Inflammat'n of umbilical vessels, scrotum, bladder, testicle, purpuric spots.	.....	Died.	3 d.	.....	*Gaz. Med. de Paris.* 1842, p. 105.
19	F.	Mother feeble, father healthy, child feeble.	6th	6th	Bled freely, soon after had oozing from the mouth and gums, and vomited blood.	Hemorrhage tempor'ly checked by astringents—as alum, matico and catechu.	Died.	7th	Not made.	Dr. F. F. Amyot, *Lond. Med Times*, 1850, p. 449.
20	F.	Not given.	6th	6th	Oozing soon after sep aration of cord.	Vinegar and water, spunk and compression, actual cautery failed. Passed needle through navel, and applied ligature.	Recov'd	.....	Ligature separated on the 4th day; afterwards died of purpura.	Dr. Jeunnin, *Jour. des Connats*, 1847.
21	M.	Mother had syphilis two years before; child had eruption; feeble.	.....	8th	Bleeding from left navel and scrotum, at first; three days after from skin.	Not given.	Died.	5th	Very marked case of syphilitic cachexia.	Dr. Evert, *Zrit. fur gesam. Med.*
22, 23		Not given.	sep.	.....	Jaundice.	Pressure, astringents, escharotics & twisted suture.	Died.	.....	.....	Dr. E. J. Marsh, *N. J. Med. Rept.* vol. 1., p. 181.
24	....	Not given.	8th	14th	Navel white, flaccid; oozing constant.	Styptic and compresses used four days without success. Applied a closed lady's thimble over tubercle, with pressure.	Recov'd	.....	Thimble became fill'd with blood and checked flow; cicatrized readily.	Dr. Wm. Gale, *Western Lancet*, Sept., 1853, p. 552.
25, 26	....	Not given.	.....	.....	Not given.	All means failed.	Died.	3d d.	Not given.	M. Richard & Villeneuve, *Gazette Med.* 1848, p. 191
27, 28	....	Twins; delicate.	7th	10th	.....	Ligature *en masse.*	Died.	.....	Born at 8½ months.	M. Danyau,—*L'Union Med., & Va. Med. & Sur. Jour.*, Oct., '53.

29	M.	.....	6th	8th	Hemorrhage profuse.	Compress of lint and bandage.	Died.	2d	Arteries open, retracted beyond pressure; clot of blood in right; vein size goose quill; full of liquid blood.	A. DUBOIS, *These de Paris*, and *Va. Med. & Sur. Jor.*, Oct., 1853.
30	F.	Small, well formed; had diarrhœa 12 days, skin blue and cold.	.....	13th	Bleeding slight, diarrhœa continuing.	Nit. argent. compression, spunk, alum, actual cautery.	Died.	2nd	No jaundice or ecchymosis; arteries open, full of blood; foramen ovale and duct open; vein closed by a clot.	DR. ROGER, *L'Union Med.* '53, & *Va. Med. & Sur. Jour.*, Oct. 1853.
31	M.	Small, well formed; icterus on 3rd day; parents healthy; labor easy.	7th	4th	Intensely jaundiced; face wrinkl'd and sad, lips pallid, ecchymosis on palate, pulse rapid and small, blood flowed from centre of navel, stools bloody, purpura well mark'd.	Alum, acetate of lead, cold baths, fur, *serre-fine*, matico, sulph. cupri failed; perchloride of iron injected into vein, acted temporarily; gave tr. ferri. mur. in large doses; passed two needles at rt. angles and wound thread.	Died.	2nd	No bleeding occurred after the ligature was applied, a period of 18 hours.	DR. G. A. OTIS, *Va. Med. & Surg. Jour.*, Oct. 1853.
32	M.	Parents and child healthy; weight 9lbs.	7th	30 h.	Blood oozing from navel, did not coagul'te; dischar. from bowels natural.	Sulph. cupri arrested flow 24 hours; on its return styptic applications and tr. ferri. mur. in large doses, with brandy, restored patient's strength, & checked bleeding.	Died.	8th d.	Hemorrhage commenced on 2d day before separation of cord, and proved fatal 2 days after its separation.	DR. S. S. WHIPPLE, *Am. Jour., Med. Sci.*, Oct., 1854, p. 318.
33	M.	Same parents; No. 33 healthy.	6th	8th	No. 32.—Had bled all night; no distinct point discov'ble from which blood came; navel healthy.	No. 33.—Compress of lent, adhesive strip and bandage; perfect quiet.	Died.	27 h.	No. 33.—Umbil. vein full of fluid blood; arteries admit probe; left contained a plug; both retracted beyond pressure.	G. POUT, ESQ., *Med. Chir. Trans.*, vol. 12.
34	....		.....	.....			Died.	.....		
35	....		.....	.....			Died.	.....		

36	F.	Father syphilitic, child feeble.	Sep.	6th	Third day after birth became jaundiced; had also purpura hemorrhagia.	Sulph. cupri, tannin, compression.	Died.	10th d.	Child emaciated and covered with purpura; no autopsic examination allowed.	Communicated by Dr. S. S. Purple.
....	....	Mother healthy; third child; labor easy; refused to nurse; stools white.	7th	13th	On 2d day jaundiced; stools like curdled milk; condit'n much improved with purging; navel healthy where cord separat'd; oozing slight at first; blood did not coagulate.	Matico, tannin, graduated compress, nit. argent., alum, efforts to take up vessels; plaster of Paris, with pressure of finger, &c. failed; ferri. mur. & cobweb, with pressure; no bleeding after; stimulants internally.	Died.	4th d.	Surface yellow and blanched; limbs well formed; liver gorged with blood; umb. vein open its whole length; small coagulum in its orifice; left artery pervious, filled with fluid blood, right closed; duct, art. and vein open; blood very fluid, and did not coagulate.	G. F. B. Willing, Esq., *Med. Times & Gaz.* March 25, 1855.
37										
38	....	Mother healthy; labor easy.	.....	.....	.....	.....	Died.	.....	.....	Dr. A. Hooker, *Am. Jour. Med. Sci.*, Oct., 1852, p. 316.
39	....	Same parents.	.....	.....	.....	.....	Died.	.....	.....	
40	....	Same parents.	.....	.....	.....	.....	Died.	.....	.....	
41	....	Same parents.	.....	.....	.....	.....	Died.	.....	.....	
42										
43	....	Same parents.	.....	.....	Jaundiced.	.....	Died.	.....	.....	*Idem.*
44	....	Twin; feeble.	.....	2d	.....	.....	.....	.....	.....	Dr. W. Read, *Ibid.*, p. 315.
45	....	.....	.....	.....	.....	Plugged the navel in both.	Died.	.....	The navel seems to have been plugged with plaster of Paris.	Dr. Churchill, *Op. Midwifery*, p. 286.
46	....	.....	.....	.....	.....		Died.	.....		
47	....			.....		.....		.....		
48	....	Same parents; have two healthy childr'n.	sep.	.....	Came out in purple spots before death.	.....	Died.	.....	Treated by Drs. Key and Babington.	E. Ray, Esq., *Lond. Med. Gaz.*, vol. 43, p. 243.
49	....			.....		.....		.....		
50	....			.....		.....		.....		
51	....	.....	.....	.....	Hemor. from a granulating fungus.	This fungus was drawn out and ligatured.	Recov'd	.....	Treated by Dr. Blundell and Sir C. Clarke.	Mr. Sterry, *Ibid.*, p. 428.
52	....	Large and vigorous.	.....	.....	Purpura.	.....	Died.	.....	First symptom extravasation on the eyelid.	Dr. F. Minot, *Am. Jr. Med. Sci.* Oct. 1852, p. 317.

53	....	Mother delicate; liable to menorrhogia. No.	.....	.....	No. 55 had jaundice, apthæ, diarrhœa, convulsions; blood constantly oozed from cord and from umbilicus; scrotum purple.	Bleeding resist'd every varity of styptics.	Died.	8th d.	These parents had three other children, who, though delicate, exhibited no hemorrhagic tendency.	*Med. Chir. Rev.*, vol. 25, from *Jour. der Pract. Heilk.*
54	....	55 fair, almost white.	.....	.....			Died.	12th d.		
55	....		.....	.....			Died.	14th d.		
56	M.		sep.	.....			Died.	9th d.		
57	M.	Child healthy.	9th	6th	Constant oozing.	Pressure, styptics, compress and bandages, failed; arrested by nit. argent. and compression after funis separated.	Recov'd	.....	Hemorrhage commenced from the extremity of the funis.	Dr. John Homans, *Bost. Med. & Sur. Jour.*, vol. 40, p. 449.
58	F.	Child apparently healthy; funis left a good surface.	4th	4th	Hemorrhage profuse, bloody passages, sallow skin 5th day.	Compression, styptics, nit. arg., &c., failed; arrested by scrapings of sole leather and firm bandages.	Recov'd	.....	Became strong and vigorous; when six years old had jaundice, but recovered rapidly.	*Idem.*
59	M.	Child remark. healthy in appearance.	5th	6th	Hemorrhage very free, on 8th day child became sallow.	Compression fail'd; arrested by nig. argent. and solution of gun cotton.	Recov'd	.....	Hemorrhage recurred twice, but arrested by the solution; navel inflamed and swelled like hernia; perfect recovery	*Idem.*
60	F.	Child well formed, apparently healthy.	5th	18th	Hemorrh. not severe; on 21st day skin sallow, with purpuric spots; bleeding from gums.	Compression and nit. argent partially arrested the bleeding.	Died.	5th	Ecchymosis formed around the navel after application of caustic.	Dr. Steph. Ball, *Ibid.*
61	M.	Child plump; had colic and green passages.	.....	5th	Hemorrhage from a point one-fourth the size of calibre of funis; jaundice gradually came on.	Compression, pressure with finger, ice, creosote, powder of nutgalls, nit. argent., actual cautery, solution of gum shellac in alcohol, turpentine, tr. ferri. mur., all failed.	Died.	.....	Pressure with finger arrested hemorrhage 12 hours; child nursed well; purpuric spots noticed on 2d day.	Dr. H. H. Rising, *Ibid.*

63		Parents healthy; funis large and twiged, had diverticula; its circulation distinctly he'rd during pregnancy.	Not sep.	1st	Bleeding from funis, with pulsation, 4 days; on 4th day from navel; eyelid œdematous, finally trunk; spots of stony hardness in limbs.	Compression & various stypt. employed without the slightest advantage.	Died.	5th	Surface yellow; purpuric spots on eyelid, ankles and vulva; effusion of blood into lungs and intestines, no clot in heart or umbil. vessels; arteries traceable into funis; blood pale and thin.	Dr. Putnam, *Ibid.*
64	M.	Parents healthy, child healthy in appearance; purpura on 2d day.	5th	5th	Hemorhage from umbilicus as soon as cord fell; ecchymosed on 2d day.	Not given.	Died.	few hours	Ecchymo. first appeared around navel, then over the whole body.	Dr. Channing, *Ibid.*
65	....	Child doing well, except it had icteric hue.	5th	8th	Slight oozing at first; purpuric spots on elbow on 10th day.	Compress and burnt alum, tannin, plaster of Paris, nit. argent., rice, creosote, matico.	Died.	2d	No post-mortem.	Dr. T. F. Cocke, *N. Y. Annal.*, vol. 2, p. 189.
66	M.	Parents healthy; 2nd child, and healthy; 5th day bowels costive; stools clay-colored; labor easy.	3d	9th	Hemorrhage slight at first; on 10th day free; fine pulsatile jet from left to right; bled from even pricks of a pin.	Acetate and tannate of lead, sulph. zinc, nit. arg., actual cautery; all seemed to increase the flow.	Died.	2d	Surface of body very yellow; actual cautery increased the hemorrhage four-fold; ecchymosis in abundance.	Dr. W. C. Bailey, *Am. Jor. Med. Sci.* April, 1852.
67	F.	Same parents, 5th child and healthy; 8th day stupid; costive, stools clay-colored.	4th	9th	Hemorrhage free; became jaundiced, and on 17th day purpura appeared.	Matico leaf and bandages, alum, &c., mild purgatives, tonics internally; arrested by needles and ligature.	Died.	22d	Ligature separat'd on 19th day, and left a good cicatrix; bleeding began in mouth, and recurred at umbilicus.	*Idem.*
68	....	.....	.....	.....	Percolation around root of cord at place of attach. to abdomen.	Arrested by powder of starch, sugar and acetate of lead constantly added.	Recov'd	.....	.....	Dr. Condie, *Treat. on Dis. of Children*, 3d Edit., p. 636.
69	....	.....	.....	.....	Same symptoms as last.	Same treatment.	Died.	.....	Blood flowed too freely to allow paste to harden.	*Idem.*

70	M.	Fourth child healthy; 3d day icterode; labor easy.	Not.	.....	Jaundice over whole body; costive; clay-colored stools.	Hemorrh. ceased spontaneously.	Died.	.....	No post-mortem.	*Idem.*
71	M.	Child healthy; vomit'd often.	Not.	3d	Hemorrhage slight.	Nit. argent; ligature around umbilicus.	Died.	.....	.....	Dr. Keiler. *Monthly Jour.*
72	....	.....	Not.	8th	Bled five hours before seen.	Compress and bandage failed; arrested by plaster of Paris.	Recov'd	.....	.....	Mr. Hill, *Dub. Med. Press.*, vol. 52, p. 556.
73	....	Former child of these parents died of purpura and jaundice on 5th day.	.....	.....	Hemorrhage preceded by jaundice and purpura.	Not given.	Died.	8th	No autospy..	Dr. G. R. Smith, *Bost. Med. & Sur. Jour.*, vol. 4, p. 441.
74	M.	First child had ichthyosis; this had same disease of skin; became jaundic'd, stools clay-colored.	5th	9th	At first hemorrhage slight, oozing, finally escaped in a fine jet; blood pas. per anum.	Compress and tannin, nit. argent., ligature around a portion, alum, collodion, direct pressure.	Died.	3d	Umbil. vessels pervious; liver dark and friable, gorged with blood; cystic and common ducts closed; gall bladder of serous fluid.	Dr. Gould, *Am. Jr. Med. Sci.* April, 1854.
75	....	Not given.	sep.	3d day after sep.	Hemorrhage free.	All means failed	Died.	1 d.	Probably an imperfect closure of vessels from non-coagulation of blood.	Dr. Hayward, *Ibid.*, 1850, p. 69.
76	M.	Parents healthy; labor easy; fourth child, healthy.	Not.	5th	Hemorrhage very profuse; cord ruptured;	.....	Died.	20 m.	Cord torn off by nurse, just before its separation.	Dr. Lewis A. Sayre, Comm.
77	....	Mother had syphilis; child born at 7 mon.	5th	5th	Hemorrhage oozing.	Caustic, with tannin & compres., burnt alum, tr. ferri. mur.	Died.	2d	Plaster of Paris used, but not so as to test its virtue.	*Occurr'd in Bellevue Hospital.*
78	M.	Second child; parents and child healthy.	Not.	4th	Hemorrhage free; arterial from left side of cord at its attachm'ts	Nit. argent. tannin and compress arrest'd flow temporarily.	Died.	1 h.	Child exhausted when first seen; crying excited return of hemorrhage.	Author.
79	F.	Parents and child healthy; first child.	Not.	2d	Constant oozing.	Compressed sponge on tannin, with adhesive strip extend'g around body, arrested it temporarily; gave sulph. acid and iron, brandy, &c.	Died.	10 h.	Hemorrhage recurrred during the night, and child died without being observed.	Author.

PART SECOND.

CRITICAL ANALYSIS.

ART. V.—*Clinical Lectures on the Diseases of Women and Children.* By GUNNING S. BEDFORD, A.M., M.D., Professor of Obstetrics, the Diseases of Women and Children, and Clinical Midwifery, in the University of New York. 8vo. pp. 563. Samuel S. & W. Wood. New York. 1855.

OUR attention was first attracted to these Lectures by the novelty of the enterprise, in the success of which we had not much confidence; and it is partly from having withheld our encouragement that we are now induced to state our opinion of the results. We were, however, by no means alone in this distrust, and there were probably none who did not regard the undertaking as an experiment that would be required to encounter many difficulties. We think that our author has fairly represented this at page 72. Nevertheless, the work went on; grave and venerable matrons brought their daughters and little ones to the clinic in such increasing numbers that they soon exceeded the Professor's ability to dispose of the cases in the allotted time of two hours; and the lectures became frequented by many practitioners in the city, and by students attached to the other schools. The experiment came out triumphantly, and proved to the world that knowledge and humanity in pursuit of lofty and sacred objects may overcome what would be otherwise offensive to common modesty. The Professor has demonstrated that human suffering in any form may be rendered the subject of chaste and enlightened instruction in a practical manner; and it is a consciousness of this honesty of purpose, and confidence in the uprightness of those who come to learn, which has divested his lecture-room of all repulsiveness to the sensitive female who may desire the benefits offered by skill and benevolence. A principle which he lays down, and is amply followed out in his comments, has, doubtless,

been largely tributary to our author's success. In his intercourse with his female patients he says, "let the practitioner feel that he stands in the sanctuary of virtue, and his actions cannot fail to be in accordance with this sentiment:" page 77. And it may be supposed that he was not unmindful of another precept addressed to his audience, that "the poor, like the wealthy of this world, are subject to disease and suffering; and they, too, have their keen sensibilities. To allay these sensibilities, and smooth the pillow of the sufferer, laboring under the double affliction of disease and poverty, is the duty of the Christian; it should, too, constitute the happiness of the physician:" page 87.

We cannot, however, agree with our author in the propriety of the latitude which is sometimes indulged for the practical benefit of the students. But the great popularity of the clinics appears to render our explanation applicable to all the cases where delicacy is most in question. And, that the Professor manages all this with a becoming consideration, is further evident from the rebuke which he so wisely bestows upon the abuses of the speculum and touch, especially the former: pages 6 and 126–128. Nor will we neglect, in this connection, our author's reference to some of the frequent remote predisposing causes of "functional and organic derangements of the uterus, among which he enumerates, in graphic language,

"Abortions, precocious nervous excitement from the perusal of prurient books, the lascivious polka, and the various exciting scenes of city life, as so many influences which are constantly exhibiting their destructive results on the females of the gay metropolis; and add to these, the uninterrupted rounds of excitement consequent upon balls, parties, the opera, etc., the liability to cold, imposed by these amusements, and, more than all, the fact that these disastrous influences—disastrous to health and happiness—are exercised on a *physique*, too often without a single attribute of solidity, and you will at once have explained why it is that females in the higher classes of our large cities decay long before they have attained the meridian of life." Page 7, and again pages 98–100, 293, 294.

But Professor Bedford has done more than achieving the success of his clinics. He has more than taught us their practicability and usefulness. He has opened a new field in the periscope of medicine, where he will have no lack of followers, and has conferred a benefit upon humanity which the enlightened of future generations will not fail to acknowledge.

If we now look at the work before us, we shall find it, although only

an abbreviation of his lectures, bearing ample testimony to the author's industry, talents, learning and benevolence. In whatever is practical, he has generally our concurrence, often our admiration; and this is the most immediately useful part of the work. In diagnosis, description of symptoms, pathological and remote predisposing causes, modes of investigation, and treatment, its value is of a high order, and generally unexceptionable. In all these respects, too, our author is ample in the most useful detail, nor avoids a minuteness where it may be suggestive in difficult problems or of habits of critical inquiry. Nor have we any thing but commendation for the style, which is chaste and classical, or for the preservation of its original colloquial manner, unless there may be to the mature physician a redundancy of interrogatories and of a conciliating deportment addressed to the patients. But it will be readily seen how much all this is tributary to the happiness and confidence of those who resort to this clinic for relief, how much it unfolds the diseases, how much it imparts the force of demonstration, and how much the example conducts the pupil into the proper methods of investigation, and awakens his kindness and sympathy. But our author often runs, with an agreeable facility, into the didactic style, especially in expositions of medical principles, or, as in the analysis which he makes of the structure of the uterus and its appendages: pages 135–143.

It will be thus seen that our author does not limit himself to the simple details of practical instruction. Far from it; for he constantly brings into application many of the great principles of the science, by which, indeed, however unconsciously, he is especially guided in his pathological and therapeutical views, and which never fail of actuating all, with rare exceptions, in the treatment of disease. Sound, in the main, in his philosophy, he occasionally departs from it to pay a tribute to the prevailing errors of the day. It is the former, however, as his book will show, which carries off his practice, and therefore, in a practical sense at least, the latter is ignored. But what most surprised us is the frequent introduction of those enlightened views in solidism and vitalism, which have yielded so extensively, in recent times, to the *long-exploded* doctrines in humoralism and physics; and it is this, especially, which has prompted us to look with diligence to the practical value of the work, and to express our humble opinion upon its merits.

It is impossible, however, to present an analysis of this storehouse of knowledge for the student of medicine, for it consists, in itself, of analyses of special cases, and of brief commentaries upon principles in

medicine suggested by the circumstances of the individual cases. This is alike true of our author's instruction both upon the diseases of women and children, though much less remarkable for variety and skill in the latter respect than in the more complicated diseases of females. There is, unavoidably, much repetition where the cases present strong points of resemblance; but this is not the less valuable to the inquisitive student, on account of the peculiarities of every case, or even their shades of difference, which may be important to be understood, but often of difficult discernment. Occasionally, there is a useless repetition preserved in the work, which appears to have been the result of inattention; as in the instructions given for the management of infants as soon as born, their food, &c.

Our author's lectures are also peculiarly valuable for the importance which they ascribe to an exact knowledge, and the constant exemplifications, of the seats and sympathetic complications of disease, and in tracing effects to their proper pathological causes. Many very instructive examples occur in diagnosis, and the most ingenious and difficult show our author's complete dependence upon the philosophy of the vital solidist. Thus, for example, at page 45 is an instructive case of obstinate vomiting, occasioned by uterine hydatids.

"Several medical gentlemen had already prescribed for the patient. When first seen by myself, in company with Dr. Whiting, she was apparently near dissolution. Her prostration was extreme; her countenance almost Hippocratic; and, indeed, her friends had abandoned all hope of recovery. The medical gentlemen who had preceded me in attendance, had ordered cups, leeching, blisters, &c., over the region of the stomach, with various other remedies, but all without the slightest appreciable effect." Our author "arrived at the conclusion that the vomiting was merely a symptom of trouble elsewhere than in the stomach, and that no remedy addressed to that organ would be of the least avail in rescuing the patient from the imminent peril in which she was placed. On applying my hand to the abdomen, I found the uterus enlarged, and occupying the hypogastric region." "My opinion was, that the vomiting was sympathetic, and produced by irritation of the uterus. I therefore suggested the propriety of endeavoring to induce contraction of this organ, that its contents might be expelled. This view was concurred in by Dr. Whiting. Accordingly, at Dr. Whiting's request, I introduced a female catheter into the uterus. In a short time the organ contracted, and a mass of hydatids was thrown off. Almost immediately, as if by enchantment, the vomiting ceased. The patient had a slow recovery, and is now in the enjoyment of robust health."

Our author then remarks: "Let this case impress on you the importance of tracing effects to causes; and remember this cardinal

truth, that the practitioner who prescribes for mere symptoms, (and our author has several cases illustrative of this,) can never hope to treat disease successfully." And may we not add that success can never be attained but through an enlightened knowledge in physiology as the groundwork of all the rest? But this case, like a parallel one from congestive dysmenorrhœa at page 112, is only conspicuous in that respect. A multitude of others, more obscurely but not less essentially dependent upon the laws of sympathy, are constantly presenting themselves in our author's work, and where, without the same guiding philosophy, all practice is a poor substitute for unaided nature. It is all for the symptoms, or for some peccant humor, or aspires at converting morbid blood and diseased solids into their normal state by chemical processes, when these very philosophers, profound as they may be in other departments of science, will readily concede that the original normal state was the work of an elaborate system of organization, and acting upon materials totally different from the chemical agents by which they are supposed to be replaced.

Analogous to the foregoing, but presenting other aspects of our author's philosophical habits, are the enlightened comments upon a case of ulceration of the neck of the uterus, at pages 124–126, where the physiological influences of the nervous system in developing sympathetic diseases are well expounded; and here our author treads heavily upon the usurpations of the chemist, and laughs at the humoralist, by tracing the formation of urinary lithates to the laws of vital-solidism. Thus our author:—

"There is one feature in this case with which is associated a very important and interesting fact; the character of the urinary deposit. Patients will frequently consult you on this subject, and if you regard the urinary deposit as a disease *per se*, if you connect it with some idiopathic affection of the kidneys, you will often err in judgment, and fail to benefit your patient. Lithates are not uncommon in the urine of females, and if your observation be directed to this point, you will discover that they are often the indirect result of disease of the womb. This character of deposit is one of the evidences of impaired digestion. In diseases of the uterus, either functional or organic, this impairment, I have already said, is apt to follow through the operation of the *trisplanchnic* system of nerves. You see, therefore, how manifestly important it is, before having recourse to therapeutic measures, to ascertain where the cause and effect exist." And so of a similar, maltreated case, at pages 383–386.

At another time, in recurring to the subject of ganglionic influences in the production of disease, we have from our author a practical suggestion which is predicated of the true philosophy of the peristaltic

movements of the intestines. After speaking of many other sympathetic results of the gravid uterus, our author says:—

"I believe that to a certain degree the constipation so common in pregnancy may be explained in the same way, the regular action of the intestinal canal being modified in consequence of a want of healthy *nervous power* from the ganglionic nerves. This, at all events, in my opinion, is the true explanation of torpor of the bowels in the earlier months of gestation; and I therefore am disposed, as a general rule, to regard constipation as an accompaniment of pregnancy for the same reason that I do nausea, vomiting, &c., irritation of the ganglionic system of nerves. But, at a later period of pregnancy, there is an additional cause brought into operation—pressure of the uterus against the intestine, &c.:" page 146.

On the other hand, another peculiarly modified irritation of the ganglionic nerves, induced by pregnancy, will lead to diarrhœa, the nervous power then operating, as in the case of vomiting, as a stimulus to the organic properties of the intestinal muscular tissue: page 147. The treatment must depend upon the special causes, remote and proximate.

Or consider the comprehensive philosophy involved in a few words of our author's excellent comment upon a case of "sub-mucous fibrous tumor of the uterus in a married woman, &c.," at pages 217–224.

"The emaciation here is the result of local disease—the nerves of organic life, whose healthy influence is so essential to the maintenance of the nutritive functions, have suffered impairment from the diseased condition of the uterus, and hence they have been unable to transmit to the digestive organs their proper supply of nervous power. How often have you seen this principle exemplified in the Clinique, both in functional and structural disease of the uterus! It is a principle which those of you who intend to make a specialty of the maladies peculiar to women must have constantly before you. Often will it prove a faithful guide, and enable you to reach the truth which, without it, would be unattainable. It is not improbable that the patient herself, as well as her friends, imagine that the emaciation is the absorbing feature in the case—and with this view, their therapeutics would consist in the administration of tonics to generate an appetite, etc. But to you, this decay of structure presents a very different aspect—it is the effect of a disease, which alone is to occupy your attention; and if you can succeed in arresting it, then the nutritive functions will be the recipients of healthy nervous influence—digestion will be improved, and the patient will gain flesh and strength. This, at least, is the fair reasoning in the case—reasoning, which all experience proves to be correct:" page 220.

It is not remarkable, however, that our author, in his devotion to his favorite department, and in the midst of so great a variety of compli-

cations of disease, should sometimes regard the uterine derangement as the primary sympathetic cause, when it has been only one of the remote consequences of other lesions of function. We think that such misapprehension occurs in the interesting case of "threatened paralysis," at pages 208–210, and that of "suppressed menstruation and periodical hemorrhoidal bleeding," at page 337, the latter of which we should refer to hepatic congestion. These instances, however, are rare; and for these our author may plead the example of his distinguished teacher, the Baron Louis, who refers all the structural lesions that ever happen in typhoid fever to a primary affection of Payer's glands, yellow fever to hepatic disease, and the intermittent to troubles of the spleen.

We shall continue to follow our author in his medical principles, because we find them most usefully associated, as a natural result, with his expositions of about all the cases that make up his valuable contribution to the healing art. We may not neglect saying, therefore, that the humoral pathology, as far as our author's facts and philosophy are concerned, gets many blows from examples of lactation and mammary abscess; and chemistry and filtration have a very sorry chance in their presence, especially when our author speaks of the effects of mental emotions in altering the qualities of the milk, and which is illustrated by a case of infantile purging and convulsions, at page 423–426; and again when he descants upon the influences of the uterus, habit, &c., in variously affecting the production of milk. The simple element of the whole may be constantly seen in the only philosophy which can interpret the various and sudden changes brought about in the product of a suppurating surface by mental emotions, gastric and intestinal derangements, cathartics, exercise in the open air, &c.; and this is extensively applicable to all other secretions.

Many prevailing errors in practice are corrected, which are often accompanied by suggestions that point the attention of the student to profound problems in physiology, which, if he follow out, will induct him far into the labyrinth of a sound philosophy of life and disease. These instances sometimes begin in slight matters. Thus, at page 199, our author, when objecting to the usage of applying two ligatures to the umbilical cord, is led to assign the reason, which brings into view the whole proper philosophy of decarbonization of the blood, both in the lungs and the placenta, and how the phenomenon as taking place in the latter is tributary to a just interpretation of the former.

We would also commend to the attention of the student two difficult and well-authenticated cases in diagnosis of a very different character from such as we have already quoted; one of concealed

pregnancy, the other of mistaken pregnancy. They occur at pages 48 to 53, and abound with important instruction even to the mature of the Profession. The narrative has also the advantage of being affectingly true to nature, and the cases are presented, without any apparent design of our author, in powerful contrast with each other.

At pages 248–251 is a very clever, and if we may say so, admirable diagnosis of a case of "imperforate os tincæ and retention of the menses," which exemplifies our author's skill and the practical richness of his instruction. Other, and similar cases occur at pages 297–299, and pages 318–321, the latter of which presents the interest of having occurred in a woman who had borne two children; and a successful issue of an operation in this case may be seen at page 376. These dexterous achievements in diagnosis were made and verified in the presence of the class; and perhaps it may be conceded that the great practical benefit arising from a thorough investigation of obscure forms of dangerous maladies justifies the full extent of our author's critical instruction. There seems not to have been any thing lost to modesty, while it cannot be doubted that much was gained to knowledge and humanity. There is much of this where obscurity prevails, and where a great compensation obtains, though it may be mostly important in the aspect of diagnosis. This, for example, is true of the interesting case of uterine flatus, which follows immediately the last of the foregoing, pages 321–325; and at page 377 may be seen the successful result of the instrumental treatment. To this class of cases, only far more practically important, belongs a very complicated one of "*complete occlusion of the meatus urinarius, with adhesion of the walls of the upper fourth of the vagina, together with vesico-vaginal fistula, produced by instrumental delivery*," requiring three distinct operations at as many distinct periods, and where our author exhibits his happy facility of rendering a special case the groundwork of important and diversified information: pages 346–355.

So far, and in all the analogous cases of difficult diagnosis and treatment, we think that our author has established a claim to the thanks of the Profession for the responsibilities he undertook in its behalf, and where, too, he had been discouraged from the enterprise. Even in such instances as that of the abscess, at page 340, and of chancre, at page 419, and of infiltration, at page 406, much practical benefit may result from the demonstrations made; but here it is more a question as to the propriety of its full extent. If all minds were as pure as our author's, we might not raise an objection. In any event, it must be conceded that our author has a remarkable facility in obtaining the confidence of female patients.

We are not disposed, however, to rest here, but would indicate still further the excellent variety in the work before us. Of a still different character from the foregoing is an inquiry into the various internal causes of chorea (page 116); and at pages 104–105 is a profitable example in diagnosis of internal causes of cough, where the malady was "sympathetic from intestinal worms," with an explanation of the philosophy; while this may be contrasted with another case of troublesome cough depending upon "pressure of the gravid uterus against the diaphragm," when the patient was in a recumbent posture (page 180); with appropriate comments in all the cases upon the corresponding varieties in treatment. And here may be usefully considered and compared with the foregoing the enlightened commentary upon a case of *catalepsy* resulting from an "engorgement of the uterus," which had grown out of a complex series of remote influences: pages 331–337. This patient returns cured at page 378. In connection also with the foregoing cases, that of hysteria, at pages 368–374, and the variety of comment to which it leads, may very usefully engage the attention of the student, not only for its practical but its theoretical interest. And of an analogous nature are the enlightened disquisitions upon "globus hystericus," &c., at pages 236–241; and again upon the remote internal and proximate causes of infantile convulsions, and other diseases of infancy, and how the treatment should be determined accordingly; as at pages 36–37, 195–198, 212–217, 287–290, 450–456. "In my judgment," says our author, "the advances of *Physiology*, though recognized in almost every department of the Profession, are in no particular more strikingly illustrated, than in the light they have shed on the nervous diseases of infancy:" page 450.

It will be seen that we have hitherto referred to only such cases as were introduced to the class in attendance upon our author's lectures, when the prescriptions were made, and the accuracy of our author's diagnosis confirmed by highly interesting, and sometimes startling demonstrations. We are therefore prepared to render to our author full credit for the five or six cases embraced in his work, which occurred in his private practice. Of this number it is but just to our author that we should quote an example, and we are sure that the reader will be gratified with the following pathetic story of a clergyman's daughter, which will serve, also, to exhibit the importance of accuracy in diagnosis.

Thus, our author:—

"I was requested to visit a lady who was residing in the State of New Jersey, about thirty miles distant from New York. I immedi-

ately repaired to her residence, and on my arrival was received by her father, a venerable and accomplished gentleman. He seemed broken in spirit, and it was evident that grief had taken a deep hold of his frame. On being introduced to his daughter's room, my sympathies were at once awakened on beholding the wreck of beauty which was presented to my view. She was evidently laboring under phthisis, and it was manifest from her wasted frame that death had claimed his victim. My presence did not seem to occasion the slightest disturbance, and with the smile of an angel playing on her countenance, she greeted me with these words: 'Well, doctor, I am glad to see you on my beloved father's account, for he will not believe that I cannot yet be restored to health. Life, however, has lost all its charms for me, and I long for the repose of the grave.' These words were spoken with extraordinary gentleness, but yet with an emphasis that at once gave me an insight into the character of this lovely woman.

"Her father was a clergyman of high standing in the English Church, and had a pastoral charge in England, in which he continued until circumstances rendered it necessary for him to leave that country, and seek a residence in America. At a very early age, this young lady had lost her mother, and had been almost entirely educated by her father, whose talents and attainments admirably fitted him for this duty. When she had attained her eighteenth year, an attachment was formed between her and a young barrister of great promise and respectability. This attachment resulted in a matrimonial engagement. Soon after the engagement, she began unaccountably to decline in health. There was considerable irregularity in her menstrual periods, with more or less constant nausea, loss of appetite, inability to sleep, feverishness, and an uncontrollable dislike to society. In addition to these symptoms, there was a marked change in her personal appearance; her abdomen became enlarged, with increased size of the breasts, etc. These changes attracted the attention of some of her female acquaintance, and the rumor soon spread that they were the result of pregnancy.

"The barrister to whom she was affianced heard of these reports, and, instead of being the first to stand forth as her protector, and draw near to his heart this lovely and injured girl, thus assuaging the intensity of grief with which she was overwhelmed, addressed a letter to her father, requesting to be released from his engagement. This was of course assented to without hesitation. The young lady, conscious of her own innocence, knowing better than any one else her own immaculate character, and relying on Heaven to guide her in this her hour of trial, requested that a physician should be sent for, in order that the nature of her case might be fully ascertained. A medical man accordingly visited her, and, after an investigation of her symptoms, informed her father that she was undoubtedly pregnant, and that means should be instantly taken to keep the unpleasant matter secret. The father, indignant at this cruel imputation against the honor of his child, spotless as he knew her to be, spurned the proposition, and immediately requested an additional consultation. This resulted in a confirmation of the opinion previously expressed, and the feelings of that parent can be better appreciated than portrayed.

"Without delay, that good man determined to resign his living, gather up his little property, and proceed with his daughter to America. On her passage to this country, she became extremely ill, and there being a physician on board the vessel, his advice was requested. After seeing the patient (she was affected at the time with excessive vomiting from sea-sickness,) he told the father there was danger of premature delivery. Such, therefore, was the general appearance of this lady, that a medical man, merely taking appearances as his guide, at once concluded she was pregnant. This was about the substance of what I learned respecting the previous history of this interesting and extraordinary woman, and my opinion was then requested as to the character of her malady. My feelings were very naturally much enlisted in her behalf, and I proceeded with great caution in the investigation of her case. Without entering at this time into details as to the manner in which I conducted the examination, suffice it to say, that, after a faithful and critical survey, most minutely made in reference to every point, I stated in broad and unequivocal language, that she *was not pregnant.* The only reply this gentle creature made on hearing my opinion, was, 'Doctor, you are right.' These words were full of meaning, and their import I could not but appreciate. They were uttered neither with an air of triumph, nor with a feeling of unkindness towards those who had so cruelly abused her. The father was soon made acquainted with the result of my examination, but he indicated not the slightest emotion. His bearing was quiet and dignified. It was evident that he had never faltered for one moment in the belief of his daughter's virtue, and required no assurance from me or any other living being, that his child had been shamefully wronged. He asked me with great solicitude whether something could not be done to restore her to health, and I thought the old man's heart would break when I told him that his daughter was in the last stage of consumption. I left him with the pledge that he would inform me of her dissolution, and afford an opportunity, by a *post-mortem* examination, of testing the truth of my opinion.

"About four weeks from this time, I received a note announcing the death of his daughter, and requesting that I would immediately hasten to the house, for the purpose of making the examination. Dr. Ostrum, now practicing at Goshen, at my request accompanied me, and assisted in the autopsy. It may surprise you, gentlemen, but yet it is an interesting fact to communicate, for it exhibits the true character of the man, that during the *post-mortem* examination the father stood by, and witnessed every stage of the operation; his form was erect, his face pale and thoughtful, and one tear would have broken the agony of his grief. As he stood before me, he was not unlike the stricken oak in the forest, which, though blasted and stripped of its branches, was yet upright and majestic. As I removed the tumor from the womb, he seized it convulsively, and exclaimed: 'This is my trophy, and I will return with it to England, and it shall confound the traducers of my child.'

"Here, you perceive, both character and life were sacrificed by error of judgment on the part of those whose counsel had been invoked. Without a due appreciation of their responsibility—heedless, as it were, of the distressing consequences which would inevitably result from an erroneous judgment of a case, in which character was so deeply involved, the medical gentlemen, unjust to themselves, and to the Profession of which they should have been in part the conservators, rashly pronounced an opinion which consigned to an early grave a pure and lovely being, and crushed the heart of a devoted and confiding parent.

"It was the misfortune of this young lady to labor under an affection of the womb, which simulated, in several important particulars, the condition of pregnancy; and which the world, in its ignorance, might have supposed did in fact exist; yet there was no excuse for the physician, guided as he should have been by the lights of science, and governed by the principles of a sound morality. When I stated unequivocally to the lady that she *was not pregnant*, I gave an opinion which I knew would stand; my examination was conducted in a way which enabled me accurately to comprehend that the whole train of symptoms, indicating gestation, was occasioned by an enlargement of the womb, altogether unconnected with pregnancy, and produced by the presence of a large resisting tumor occupying the entire cavity of this organ. This opinion, I admit, was not arrived at without some degree of caution—caution fully justified by the peculiar nature of the issue involved in the decision.

"This, gentleman, is a case well calculated to make you pause, and contemplate with serious earnestness the position in which, by virtue of your diplomas, you will soon be placed. These diplomas will confer on you the right to practice your profession—they will intrust to your keeping the lives and happiness of your fellow-beings—you will frequently be the sole arbiters, on whose decision must rest the honor of your patients, and on whose judgment must stand all that is sacred in life." Pages 50–53.

In the midst of all the display which we have now seen of our author's philosophy of life and disease, it may be unexpected to find him now and then paying a respectful consideration to popular and superficial doctrines; and to their advocates it may be consoling to know, for example, that he speaks of "*neutralizing*" the syphilitic poison by mercury: page 339. But our author does not enlighten us as to the *modus operandi* of a *non-stimulating diet* in curing the same disease, as attested by many of the best writers; nor does he intimate that the *iodide of potassium*, which he greatly commends in these cases (page 340), also *neutralizes* the poison. That would not be in conformity with the sensible results that are peculiar to the union of acids and alkalies, and so the reader is left to make the best he may of the *modus operandi* of *iodine*. Do arsenic, cinchona, cob-

webs, opium, emetics, phlebotomy, and mental emotions, some from the animal, some from the mineral, and some from the vegetable kingdom, and others from the spiritual domain, or from the contaminated mass itself, alike "neutralize the poison," when they overthrow intermittent fever, or unite chemically with the diseased solids, and thus convert both them and the blood to their normal state? Is there the slightest consistency in this with the exact laws of chemical affinities and the resulting coincidences? Our able and candid author will concede that there is not, and will expunge this trifling with facts as well as with philosophy from his next edition—albeit though it be stereotyped. We will pay the expense.

This suggestion, indeed, is important to render our author consistent with himself, not only in a general sense, but in the very matter now in question; for at other times he unavoidably allows the true philosophy of the operation of *mercury* to escape from his lips. Thus, in a case of suppression of the menses, he says that "*ptyalism* must be effected by mercury, and though it is not desirable that extensive *mercurial action* should take place, it is absolutely essential that the *system should be under its influence* for at least three or four months:" page 403.

Our author also imagines that measles and scarlet fever are owing to contamination of the blood by some peculiar virus, (not the insect pathology,) and that "nature as a general principle throws it upon the surface. But when, from some contravention, she is unable to dispose of it, the result of this inability is soon disclosed by the nervous disturbance which ensues, and which frequently terminates in convulsions:" page 437.

Now, however this doctrine may abound in recent authors, we deny that it is supported by the shadow of a fact, and believe that, like what we have already shown of analogous fictions, it is contradicted by all that is known in physiology and pathology. If this be not so, then it devolves upon the advocates of the hypothesis to show that it is not exclusively the offspring of imagination. And as to our author, does the doctrine, in the case before us, harmonize with what we have seen of his rational philosophy of convulsions in other instances, and in which the blood is not at all suspected? Does our author's treatment of scarlatina, under any circumstances, correspond with his pathology? Certainly not. It belongs purely to vital solidism, and, as our author well remarks upon this matter, "the treatment, after all, is the material part of the whole subject." See pages 542–550.

Under the same category must be included the speculations about *kiestine* (a word from the laboratory), which occur at page 474. It may be more encouraging that our author touches the shoals of the humoral pathology at the very outset of his work. But he seems conscious of this awkward position, and is evidently unwilling that his readers should accept the fallacy. Thus, of *chlorosis*, he says that it is often constituted by "*an impoverished condition of the blood.*" Nevertheless, he regards this "impoverished condition" only as one of the ultimate effects of an extensive functional lesion, generally at first of the digestive organs, which leads frequently to disturbances of the uterine functions, or to lesions of structure in various parts. Let us quote the Professor on a subject so important to a right treatment of disease, and through which he dismisses the humoral pathology :—

"Constipation," says he, "is so frequent an accompaniment of chlorosis, that we are inclined to think, with Marshall Hall, that it is one of the *most fruitful sources* of this disease. It is insidious in its results, and often lays the foundation of general derangement of the health. In these and in other cases the impoverishment of the blood may arise from the morbid influence exercised by these disturbances on the ganglionic system of nerves, the healthy and unaffected condition of which is so essential to the proper performance of the assimilative functions." Page 24.

Indeed, the whole of our author's reasoning and practical injunctions are entirely on the side of solidism; and it will be seen, from the following case of "amenorrhœa from an atonic condition of the system" (which illustrates still further our author's meaning as to an "impoverished condition of the blood"), that there is, after all, no encouragement in his work for the physical philosophers of life. Thus the Professor, upon "impoverished blood," as it was with Andral, the restorer of the doctrine :—

"The *vital forces* are too low, the *vis naturalis* of the economy is deficient, and, as a necessary *consequence of this state of things*, there is functional inactivity of the uterus. Without a just discrimination much injury might befall the girl by injudicious medication." Page 484.

Finally, our author quotes Dr. Bennett as saying that *chlorosis* "arises exclusively from disease of the blood," and our author shall now become the critic :—

"With this doctrine to guide us," he says, "our treatment of chlorosis would not only be useless, but *absolutely destructive* in cases in which this affection is traceable purely to organic disease of the womb, or to aberration in the functions of this organ." Page 25.

As our inquiry upon this topic is extensively applicable to the humoral pathology, and as we desire our author's co-operation, as well as what may be gleaned of a like nature from other quarters, we may be permitted to quote our author, in connection with Bernard, in the matter of the treatment of chlorosis, where we shall find them both upon the ground which we have always occupied. Thus our author :—

"Bernard is of opinion that the curative effects of iron in chlorosis are not due to the absorption of this agent into the blood; he has not been able to detect, after injecting into the stomach iron filings, the lactate of iron, &c., more iron than usual in the vena portæ; but he observes that as iron exists in the food, it may perhaps require a certain combination in order that the metal may be absorbed. He however insists upon a very important fact, viz., that the salts of iron exercise a special action on the mucous coat of the stomach, each portion of this surface touched by the metal immediately assuming a more active circulation. It is, therefore, a direct excitant. May not chlorosis, he asks, according to this, be due to an impaired digestion, and may not the iron, by the excitation it produces, re-establish and fortify the digestive functions? Although this question is not completely solved, yet it must be admitted that it possesses much therapeutic interest." Page 28. *There is nothing new in this.*

Our author has given us so much that is sound in philosophy, and of great practical value in pathology and therapeutics, we should have, perhaps, no right to bring his occasional oversights into contrast, were it not for the benefit of rational medicine. Nor did we, in fairness, think it right to neglect the little which our author has conceded to popularity; and with this intention we refer such as are prone to speculation to a lecture upon *uremia* and *albuminuria*, which our author has especially provided for that class of readers, at pages 521–534. This, too, may have been judicious, in view of the odds that prevail against our author's substantial system of medicine. But where there is so much that is profound, erudite and philosophical, we have our doubts whether there is enough of the former to give satisfaction. Our author, moreover, should have been actuated by what he evidently sees, that the day is near at hand when medicine will be completely rescued from the toils of its invaders, and when their aspirations must go into the common wreck of factitious systems. Nor do we intend any discourtesy by this remark, which is prompted alone by our convictions of the momentous importance of the subject to the highest interests of mankind, to reason, and the claims of nature. What we have regarded as spurious cannot long survive the blaze of light which the nervous system is pouring upon physiology, pathology and therapeutics, if just conclusions should not be reached through other important sources that abound in the animal economy.

But most of all do we regret that our author should have given his countenance to a popular doctrine of the day, which reaches far beyond the ranks of the Profession—the spontaneity of living beings, as manifested in his comments upon intestinal worms: pages 61, 62. Admit this as an example of spontaneous origin, and it must be conceded by all that is sound in analogy, that the door is equally open for any other animal, and for man himself. The hypothesis is without a plausible fact, whilst the ova of these parasites, and of such as are found in the organization of the body, even in the fœtus, may require, in the natural external condition of the animals, a magnifying power of several hundred times to render them visible. They may, therefore, be absorbed into the circulation, where their new mode of existence, as well as in the intestinal canal, may so modify the condition of the animals that they shall lose all resemblance to their characteristics in the external world. The animal and vegetable tribes abound with equally remarkable aberrations, that arise from climate, domestication, and cultivation alone. But more than this. From whence comes the elaborate organization of these so-called parasites and their wonderful systems of design? How do they obtain, at their start into being, the seventeen or eighteen elements of which they are composed, and which are indispensable to the beginning of existence? And should not this objection have been urged against the pretended creation of the *Acarus Crossii* out of a simple solution of silex in water? Is there any thing in chemistry that will expound the union of such a number of elements into compounds of the most exact nature, or these compounds, by any thing known in physics, into systems of design, if you had all the elements to begin with? Or take oxygen, hydrogen, nitrogen and carbon alone; the chemist completely fails to fabricate the most simple organic compound out of these or any number of elements. Nor can the pretense be set up that the so-called intestinal parasites grow out of a previously organized part, for they are perfectly independent beings, and have no attachments to the intestine. The doctrine which ascribes *Muguet* "to the production of a parasitic plant within the epithelial cells" (p. 459), is open to precisely the same objections as apply to the spontaneity of animals, and is contradicted by all the physiological, pathological, and therapeutical facts. It is alone worthy of the most imaginative of the microscopical school, setting aside its pernicious tendencies in religion.

We cannot but think, after all, that whoever regards the animalcule, that can be discerned only through a high magnifying power, in all its wonderful complexity of organization, seemingly existing in

nothing, in all its close analogies in composition and structure to man himself, and ponders upon the same analogies as they are only less complex in worms, and only still less in parasitic plants, and considers the stupendous designs which each part, and all together in unison, fulfill for the growth and well-being of each individual, and how there is no deviation in structure among all the individuals of the species, respectively, must concede the descent of the whole from progenitors that had been brought into being by an Intelligence higher than that which is enabled to explore the labyrinth and trace out the designs, and that thus informed, he must bow with reverential awe under the inspiration of such contemplations.

In parting with our author, we assure him, for ourself, that we hail the advent of such a work, abounding in practical matter of the deepest interest, and illustrated by principles and laws ordained by Nature, and we may further congratulate our author that this novelty in medical instruction has been achieved in America.

The great variety of topics embraced in our author's work is accompanied by a correspondingly copious index, while a general analysis of each lecture makes up a connected table of contents, and this is repeated at the head of the lectures as they follow each other, and each case is introduced by a brief analysis. Of all this variety of subjects it may be safely said, that each one is worthy of the place which it occupies in the book, and that none of them can fail to interest and instruct the student, or the practitioner who may be deficient in experience or in sound physiological, pathological, and therapeutical principles, or who would learn the value of simplicity combined with efficiency in medical treatment; and even the erudite and skillful will be well rewarded by a perusal of the work. Nor can we refrain from again expressing our surprise and gratification at finding these lectures so remarkably exempt from the superficial views that abound in the great thoroughfare of medicine. Nor is it the least valuable part of our author's labor, that it is embellished with religious and moral precepts, philanthropic suggestions, inculcations of delicacy, and examples of kindness to the suffering poor. Let us have, in conclusion, an illustration of all this in a brief apostrophe of exquisite pathos:—

"The case before you is well calculated to excite your sympathy. Here is a poor woman in feeble health, affected with a formidable disease, and yet compelled to seek her living by her own labor. Poverty, indeed, is no crime, but it is a trying inconvenience. [Here the patient exclaimed:—'Yes, doctor, dear, it is inconvenient with this load of sickness upon me; but the Lord has afflicted me because I am a

sinner, and I am content, and will bear my sufferings with all the strength I can.'] What an example is this poor woman to the discontented and dissatisfied of the earth! She is tranquil in mind, and submissive under her severe distress": p. 167. M. PAINE.

ART. VI.—*Medico-Chirurgical Transactions.* Published by the Royal Medical and Chirurgical Society of London. Vol. xxxvii. London, 1854. 8vo. pp. 264.

THE publications of the *Royal Medical and Chirurgical Society* now extend over a period of nearly half a century, and form a series of volumes which may be regarded as the largest storehouse of medical facts to which the English reader has access. The present volume fully sustains the high character of the series, though it is hardly equal to some of its immediate predecessors in the originality and importance of its papers. We cannot, we are persuaded, render the medical reader a more acceptable service, than by giving a brief analysis of the several papers which compose this volume.

Scrofulous Caries of the Left Astragalus—Excision—Cure—Formation of a Fresh Joint. By S. F. STATHAM, Assistant Surgeon, Univ. Coll. Hosp.—The patient was a child, æt. 5, of strumous tendency, in whom an abscess formed below the outer surface of the left ankle, which, on being opened, was found to expose the astragalus in a softened condition; the ankle-joint was healthy. Medical treatment having failed, the operation of excision was performed; the astragalus and the upper portion of the calcaneum were removed through a crucial excision made on the external surface of the foot. The extremities of the tibia and fibula were sound, and also the tarsal bones; the wound was filled with lint, and a splint applied to the inner side of the leg and foot. The patient's recovery was rapid and complete. Considerable motion of the joint is retained, and, with the aid of a nicely-adapted boot, "the lad is able to walk and run without any pain, and with merely a halt, partly due to the incumbrance of the instrument.

Pathological Remarks on the kind of Palpebral Tumor, usually called, in England, Tarsal Tumor. By H. HAYNES WALTON, ESQ., F.R.C.S., Surgeon to the Central London Ophthalmic Hospital.—This paper is an inquiry into the pathological character of a tumor of the lid, which has been variously called "fibrinous tumor," "tarsal tumor not encysted," "albuminous tumor."

Notice of a Case of Skin Disease accompanied with Partial Hyper-

trophy of the Mammary Gland. By James Alderson, M. D., F. R. S. Physician to St. Mary's Hospital.

Case of Mollities Ossium, preceded by Degeneration of the Muscles. By Thomas K. Chambers, M. D., Physician to St. Mary's Hospital.—The chief points of interest in this case were the extreme general and muscular debility of the patient without any assignable cause, and the subsequent development of mollities ossium in its most aggravated form.

On the Keloid of Alibert, and on true Keloid. By Thomas Addison, M. D., Physician to Guy's Hospital.—The object of this paper is to draw a distinction between the affection generally recognized as the Keloid of Alibert, and another disease originating in the same tissue having an essentially different and more serious result.

On the Blood and Effused Fluids in Gout, Rheumatism, and Bright's Disease. By Alfred B. Garrod, M.D., Prof. of Mat. Med. at University College.—Dr. Garrod describes in this article a simple method of determining approximatively the amount of uric acid contained in the serum of the blood in certain diseases, which he styles the "Uric Acid Thread" experiment. It is as follows:—

Take from one to two fluid drachms of the serum of blood, and put it into a flattened dish or capsule; those which I prefer are about three inches in diameter, and about one third of an inch deep, which can be readily procured at any glass-house: to this is added the strong acetic acid of the London Pharmacopœia, in the proportion of about six minims to each fluid drachm of the serum; a few bubbles of gas are generally evolved at first; when the fluids are well mixed, a very fine thread is introduced, consisting of from one to three ultimate fibres from a piece of unwashed huckaback or other linen fabric, about one inch in length, which should be depressed by means of a small rod, as a probe or point of a pencil. The glass is then put aside in a moderately warm place, until the serum is quite set and almost dry; the mantel-piece in a room of the ordinary temperature answers very well, the time varying from eighteen to forty-eight hours, depending on the warmth and dryness of the atmosphere. Should uric acid be present in the serum in quantities above a certain small amount noticed below, it will crystallize, and during its crystallization will be attracted to the thread, and assume a form not unlike that presented by stone sugar upon a string. To observe this appearance, a linear magnifying power of about fifty or sixty, procured with an inch object-glass and low eye-piece, or a single lens of one sixth of an inch focus, answers perfectly. The uric acid is found in the form of rhombs, the size of the crystals varying with the rapidity with which the drying of the serum has been effected.

On Excision of the Knee-Joint. By G. M. Jones, Esq., Surgeon

to the Jersey Hospital.—Mr. Jones furnishes us in this paper a table of all the cases of excision of knee-joint which he has been able to collect. The whole number is thirty-three; of this number twenty recovered, nine died, three under treatment, one doubtful.

Since the publication of Mr. Jones' paper, Mr. Butcher, of Dublin, has published the details of his case (*Dublin Quart. Jour.*, Feb., 1855), with the addition of a table containing all the cases operated upon since July, 1850.

On the Radical Cure of Reducible Inguinal Hernia, by a new Operation with Cases and Remarks. By T. Spencer Wells, F. R. C. S.—The design of Mr. Wells' paper is to lay before the English medical public a new method of curing reducible inguinal hernia. This new method is that of Professor Wützer, of Bonn, and was presented to our readers in the January (1854) number of this Journal.

Operations of Morbid Changes in the Mucous Membrane of the Stomach. By Dr. Hanfield Jones.—In an examination of the stomachs of a hundred deceased persons taken as they presented themselves, Dr. Jones arrives at some important conclusions in regard to the diseases of this organ. The following are the deviations from the typically healthy condition which he observed:—

1. *Nuclear masses.* These are the solitary glands, and Dr. Jones is doubtful in regard to the degree of their development within the physical limit. 2. *Diffused nuclear formation*, extending in extreme instances uniformly throughout the mucous membrane, and causing atrophy of the tubes. 3. *Intertubular fibroid formation;* this condition is commonly associated with the preceding, and consists in this, that the exudation in which the nuclei lie, passes into the form of a more or less fibroid, or homogeneo-fibroid stroma. 4. *Spontaneous decay of the tubes*, giving the mucous membrane the appearance of a mass of granular and celloid débris, interspersed with fat vesicles and fatty matter. 5. *Deposit of black and yellow pigment;* occasionally within the tubes, more often between them. 6. *Cystic formation;* either by liquefaction of a nuclear mass, by distention of a tube, or by the formation of a cyst *de novo*. 7. *Mammillation;* this is of two kinds. One may be called healthy and seems to depend upon a contraction of the corium of the mucous membrane, due to its organic muscular fibre; the other depends upon a fissuring of the mucous membrane or local atrophy. 8. *Gathering up of the lower parts of the tubes* in the pyloric region, so as to form a group of convolutions something like the acini of a conglomerate gland is often observed.

No satisfactory explanation of this change can be given. 9. *The epithelium of the tubes* may become fatty, atrophied, &c., these changes not being well made out. 10. *Self-digestion* in slighter degrees is very common, and invariably most marked in the splenic region.

Dr. Jones gives a careful analysis of his tables, and exhibits an interesting view of the comparative frequency of these pathological appearances in different portions of the stomach, at different ages, and in the sexes. The following suggestive remarks conclude this highly instructive paper :—

In concluding this paper, which I feel is but a first labor in a hitherto little cultivated field, I cannot but remark how strongly the degenerative tendency characterizes the disease of the present day. We know not whether it was so in former times, but for ourselves the lesson is plain and clear, that the integrity of the vital force, which we call health, must be carefully cherished if it is to be long preserved. From diminished vital power there is no great step to organic decay ; and if the one exists any length of time, there is too much reason to fear that the other is in progress. If the researches I have made do nothing more than show that degenerative change in one important organ is no unfrequent event, and it requires but a moderate pathological experience to show that the same is true with respect to many other parts, how does it then behoove us to look out for and anticipate, as far as possible, these insidious disorganizing processes, against which our therapeutic endeavors are often so unavailing!

A Case of fatal Asphyxia, caused by the Detachment of a Diseased Bronchial Gland which was impacted in the Larynx. By George Edwards, of Wolverhampton.—The particulars of this case appeared in the Retrospect of the January number of this journal, to which the reader is referred.

Remarks on a peculiar Form of Tumor of the Skin, denominated "Pachydermatocele" illustrated by Cases. By Valentine Mott, M.D. C.L.D., Emeritus Prof. of Surgery in the University of New York.—We are gratified to see our distinguished countryman, Prof. Mott, honoring his election to a membership of the *Royal Medical and Chirurgical Society* by the contribution to its transactions of so valuable a surgical paper. We need scarcely add, that we should have been still more pleased to have found this contribution to medical science in one of our home periodicals, or the transactions of the *American Medical Association.* But we can well afford to spare this literary effort from our original periodical literature, for Prof. Mott, with his multiplicity of engagements, has been no sinecure, as the journalism of our city and country attests. We trust this paper is the pledge

that neither a firmly-settled reputation, active professional pursuits, nor declining age, are to deprive our profession of occasional contributions from his experienced pen.

The disease to which Prof. Mott gives the name of *pachydermatocele* is congenital, having its origin in a brown spot or mole, and increasing with the years of the individual until they present hideous deformities.

The morbid structures have all been more brown than the surrounding integuments, with a flabby feel, very like a relaxed and very emaciated mamma. In several of the cases there were two or three layers or stories, as in the one upon the neck and shoulder, resembling the fanciful and successive turns of a tippet, or three separate folds of a rich maroon velvet curtain. They do not appear to possess any great degree of vascularity, neither having veins visible upon the external surface, nor diminishing in size much after being detached from the body, therein differing essentially from the nævus maternus, or aneurism by anastomosis. * * * * * On cutting a slice transversely, or making an incision into these growths, the sub-dermoid structure to the eye seems to be hypertrophied areolar tissue, with very little evidence of blood vessels running through it. From their general appearance and duration, there is no evidence whatever of anything malignant in their structure or tendency. In one of the cases there was a return of the same kind of tumor upon the same spot, namely, the head, though to a less extent, demanding a second excision, and it returned again, and is now of the same shape and character as at first. In another patient, a boy, the same disposition to return was observed during the granulating process, but it was completely conquered by the patient and skillful application of compressed sponge and the roller bandage. In the other three cases, there was no disposition whatever to a reproduction of the disease. The sense of feeling was somewhat diminished below the natural standard in all of the cases. In only one was there any ulcerative action, and this arose entirely from want of attention to personal cleanliness. The largest required to be carefully washed every day with soap and water, then well dried and powdered with some farinaceous substance. If this was neglected for one day, an acrid fetid discharge took place, soon leading to excoriation.

Five cases of this disease are reported in the paper, and the different operations necessary to their removal fully described. We shall have space to introduce but one case, which will afford a fair illustration of the nature of the tumor, and the operation undertaken for its removal.

Case V.—This was truly a monstrous morbid production. Though disgusting and even frightful, to ordinary beholders, there was, in its organization and external characters, looking at it as a morbid growth, something symmetrical and beautiful. From the mother's statement, it was observed soon after birth. Miss L——, æt. about 45 years, of

robust country health, came to me from the western part of the State of New York, as she said, to show me a tumor, and to know if it could be removed. From the compact and regular arrangement of her dress, the impression on my mind at once was, that it was no great importance as to size. My astonishment was not a little excited, as she removed her dress from the chest and neck, not only from the immense size of the mass, but that it could all be so completely stowed away, as not to disturb the apparent symmetry and harmony of her proportions. The tumor was of a dark brown or copper color, of a soft, elastic feel, very much resembling a collapsed lung or a placenta. It hung in beautiful and fantastic folds, like the convolutions of a tippet over the neck, shoulder and chest. There were five of these folds or stories, the smallest above, the longest or broadest below. It was attached to the healthy integuments behind and in front of the ear—directly under its lobe—to the entire extent of the side of the neck from near the nucha to the edge of the larynx and trachea, to the whole line of the clavicle and middle of the upper bone of the sternum, over the shoulder, part of the scapula, and reaching upon the arm to near the insertion of the deltoid muscle—over the entire pectoralis major to the middle of the sternum and ensiform cartilage, and to the upper part of the rectus abdominis and latissimus dorsi, with a portion of the serratus magnus anticus. The lowest loose fold hung a little below a line with the umbilicus. The entire length of the tumor was twenty-one inches, its breadth eighteen inches. Stating to her that I thought it might be removed, she requested to have the operation performed if there was, as she said, "any chance of her life." Being made insensible with chloroform, the operation was performed in the following manner:

An incision was made a little below the tumor, across the lower part of the deltoid muscle, and the growth was dissected from this muscle to the top of the shoulder, then from the side of the thorax and upper part of the abdomen, then from the whole line of the clavicle, the upper part of of the sternum, the back of the neck, and from the trapezius muscle, it was now detached from about the ear, and the dissection continued towards the front part of the neck, in the direction of the course of the sterno-cleido mastoid muscle, until it terminated by an incision over the mesial line of the larynx and trachea in their entire length. In all this extensive dissection many arteries required ligatures, and some of them were of considerable size. The most remarkable, and indeed monstrous, were two veins entering the subclavian, no doubt the external jugular in its anterior and posterior branches, each apparently separate. Their size was the greatest I ever saw in any superficial veins, being each not less than my fore finger. They were running close together, and were seized successively the instant on being cut with the forceps, and were tied to prevent the admission of air, from which, on one occasion, I had seen frightful and almost fatal effects. As the tumor originated on the upper part of the neck, these two enormous superficial veins were probably the principal channels for returning the blood from the whole abnormal mass. They lay side by side, as they went through the deep cervical fascia, but probably just on entering the subclavian, they united, as is usual

in the normal state. As the operation was considerably protracted, from the extensive superficial dissection, and the large number of arteries which required ligatures, some exhaustion followed, but she was not alarmingly depressed at any moment, and quickly rallied when the anæsthesia was allowed to pass off.

With the exception of two attacks of erysipelas, one of which imminently threatened the life of the patient, the case progressed favorably, and resulted in complete and permanent recovery. The specimen was submitted to microscopical examination by Prof. Swett (not Lovett as the English print has it,) who thus reported: "The specimen appears to me to consist of an hypertrophy of the skin, and of the sub-cutaneous cellular tissue. Under the microscope I find nothing but an exaggeration of the natural tissues. There are no evidences of a malignant formation."

The paper is accompanied with two well-executed lithographic plates representing these tumors.

Case of Distortion of the Spine, with Observations on Rotation of the Vertebræ as a Complication of Lateral Curvature. By Thomas Hodgkin, M.D., L.R.C.P., and Wm. Adams, F.R.C.S.—These authors report the dissection of a remarkable case of spinal deformity in which there was a transverse rotation of the lumbar vertebræ to the left, the change depending upon absorption of the intervertebral cartilages. The patient, the distinguished geologist, Gideon Mantell, had been examined by Liston, Brodie, Bright, Lawrence, Coulson, &c., but no one suspected the true nature of the disease, the obscurity of the case depending upon the want of deviation of the spinous processes, though there actually existed severe lateral curvature and the appearance of a tumor. The general opinion was that destructive disease existed either in the bodies of the vertebræ or intervertebral substances, and was accompanied by lumbar abscess. The tumors observed were the transverse processes, which were rendered prominent by this gradual rotation of the bodies of the vertebræ, while the transverse processes upon the right side gradually disappeared. This peculiar change seems to have been recognized and described by Dr. Dods, in his work *Path. Obs. on the Rotated or Contorted Spine, &c.*, published in 1824. He believed that it was produced in every instance "by a peculiar affection of the muscles of the back, which affection of the muscles does not, in my opinion, primarily and necessarily, unnaturally crook or curve the spine in any direction, but *rotates or twists* it in the line of its axis; and that this rotation, or twisting of the spine, is, in itself, sufficient to explain, in the most satisfactory manner, all the phenomena of this important deformity." He was accustomed to treat his cases by frictions with oil to the spine, and, during his manipulations, he discovered these bony projections, always upon the *left side*, and having noticed whether there was any apparent lateral curvature or not, he ascribed them to their proper cause, viz: the transverse processes of the vertebræ of the loins.

On Gout and Rheumatism; the Differential Diagnosis, and the Nature of the so-called Rheumatic Gout. By Alfred Baring Garrod, M.D.—In this communication Dr. Garrod gives the analysis of the blood in one hundred and seventy-seven cases, tabulated thus:—1. Articular affections, in which was demonstrated the *presence* of an abnormal amount of uric acid in the blood. 2. Articular affections, in which the *absence* of uric acid in the blood was shown. 3. Articular affections, proved to be closely connected with *urethral* affection. 4. Affection *non-articular* in character. The examination was generally by the "uric acid thread," already described in the notice of Dr. Garrod's former paper. The result of these experiments are of the highest interest in practice, as proving that gout and rheumatism are quite distinct diseases. We shall merely quote this part of the paper, and dismiss it:—

In conclusion, as we have found that the blood in every patient suffering from genuine gout, contained an abnormal amount of uric acid, and that in acute and rheumatism such was not the condition of this fluid; and again, that in all cases which could be traced up to gout (although the symptoms exhibited at the time might not be very characteristic) uric acid was present, whereas it was absent in those cases where no such phenomena could be found, I think we shall in future be fully justified in considering this condition of the blood as not only a most important, but even a *pathognomonic* sign, and one more to be depended on than any of the other symptoms taken separately; and that in an otherwise doubtful case, where the diagnosis rests between gout and rheumatism, the presence or absence of this acid in the circulating fluid (determined either from the examination of the serum of the blood or blister exudation) may be looked upon as decisive of the question. * * * * It will be seen that the specific gravity and reaction of the blood has been noticed in the majority of cases; with regard to the latter property I may state that I have *always* found it *alkaline*, both in gout and rheumatism, and I am perfectly confident that the opinion which has been held by some to the effect that in acute rheumatism it becomes acid, is completely erroneous.

Case of Traumatic Aneurism of the Ophthalmic Artery, consequent on Injury of the Head, cured by Ligature of the Common Carotid Artery. By T. B. Curling, F.R.S., Surgeon of the London Hospital.—The facts of this interesting case are briefly these: A laborer, æt. 49, rheumatic and feeble, was admitted to the hospital with fracture of the clavicle, hemorrhage from the right ear, and symptoms of concussion, following a fall upon the right shoulder, and right side of the head. With active antiphlogistic treatment he gradually rallied, but at the end of a week total deafness in the right ear came on, serous discharge continued, and the face was drawn to the right

side, though the tongue could be protruded straight forward. Blisters, calomel, etc., relieved the paralysis, when the right eye became slightly inflamed with chemosis; the eye-ball now began to be prominent, with pain in the head, etc. This protrusion increased until pulsation was detected, and a bruit heard on placing the ear against the right temple; the pain was of a throbbing kind; vision finally began to be impaired. A ligature was now applied to the carotid in the upper third of its course, which at once relieved the throbbing pain in the head, and pulsation of the eye-ball; its prominence subsided, but vision was greatly impaired. Mr. Curling refers to two other similar cases, in one of which vision was permanently lost, and in the other saved but with a fixed pupil. We may add to these three cases a fourth which occurred at the New York City Hospital last year under Dr. Van Buren.

English Statistics of Hooping-Cough. By Edward Smith, M.D., L.L.B.—The facts of this communication are drawn from the Registrar-General's Reports, and the conclusions, which we must give without comment, are:—

The deductions in reference to hooping-cough do not correspond to the general mortality. They are directly opposed to the zymotic class, and have little relation to the nervous class, but exhibit a remarkable correspondence with the pectoral class (excluding phthisis). This latter fact indicates a close analogy between fatal cases of hooping-cough and chest affections.

It is a disease essentially of the period of dentition of the first series, and under æt. 1 year is the most fatal of all diseases. * * * *

The mortality is more prevalent in females at every period of life, and this prevalence increases as life advances; but it does not thence follow that the disease itself is more prevalent in that sex. * * * *

The degree of temperature, and the number of deaths, are in the inverse ratio to each other. The greatest mortality is observed in the first quarter, and also in the winter half-year, and the least mortality in the third quarter and summer half-year. The maximum month is about April, and the minimum about August, and the mortality passes from the latter to the former and back again in uniform waves. The highest temperature precedes the lowest mortality by about a month, and an excess of it does not produce excessive mortality from hooping-cough. The line of temperature separating high from low mortality is 48°. The waves of the greatest intensity of mortality occur every second year, being then 76 and 74 cases per week, in contrast to 47 and 52 cases per week, observed as the highest mortality in the alternate years, or those of recession. After a severe outbreak of the disease, there is diminished intensity, and lessened temperature does not then produce its ordinary ill effects. As the year of recession leads into that of intensity, the intensity becomes so great as to move *in advance*, and not in the rear, of the lines of temperature, contrary to the established rule.

PART THIRD.

FOREIGN MEDICAL RETROSPECT.

On Circular Cauterization of the Base of Hemorrhoidal Tumors complicated with Prolapse of the Mucous Membrane of the Rectum. By Dr. ALPHONSE AMUSSAT, Jun.

MESSRS. EDITORS:—

Some months since I received from Dr. ALPHONSE AMUSSAT his interesting monograph *on Hemorrhoids*, and a complete set of the stereotyped plates, accompanied with the request that I would translate the paper into English. Since then, numerous engagements have interposed to prevent the completion of this object, and in the mean time an excellent translation of the paper has appeared in the *Dublin Quarterly Journal*. In this translation one valuable note has been omitted entirely, and the cases reported by the author have been abridged, but the substance of each is still retained. In other respects the translation is neat and faithful.

As this monograph is a valuable contribution to our knowledge of this class of surgical affections, I take the liberty of sending you the plates, with the suggestion that you republish the translation of the *Dublin Quarterly* in the *New York Journal of Medicine*. For myself, I have only added the note referred to as omitted.

Respectfully,

FRANK H. HAMILTON.

BUFFALO, *May* 20, 1855.

THE number of works which, both in ancient and modern times, have been published on the subject of hemorrhoids, the place which this affection occupies in pathological treatises, and the various remedies proposed against it, testify at once to its frequency and its importance. The question, so long debated, of the expediency of surgical interference in affections of this nature, has not yet been decided in the minds of all practitioners, and I have no intention of entering here on a discussion which would lead me beyond the limits I have laid down for myself. A survey of our periodical literature will at once show

the efforts which the most distinguished physicians and surgeons of all countries have made, especially since the commencement of the nineteenth century, to facilitate and render more certain the cure of this disease, whether, in its simple form, it constitutes principally an annoyance and an inconvenience, or complicated with ulceration, severe hemorrhage, or prolapse of the neighboring rectal mucous membrane, it threatens life, or slowly exhausts the patient's strength. The therapeutics of this affection are consequently more than ordinarily rich in medicines, and varied operative proceedings.

For my part, whenever hemorrhoids are of long standing, voluminous, ulcerated, accompanied by prolapse of the mucous membrane of the rectum, or with copious hemorrhages; when they affect the general health; and when the more ordinary therapeutic means have failed, and no special contra-indication exists, I remove one or more, according to their number and volume.

During twenty-five years that my father has pursued this plan, the destruction of the hemorrhoids, combined with the precautions he has recommended to the observance of his patients, has never given him other than satisfactory results, both as respects the local condition of the parts, and the state of the general health.

Prolapse of the mucous membrane of the rectum, being one of the most frequent complications of confirmed and long-standing internal hemorrhoids, has appeared to me worthy of fixing our attention, both as to its etiology and its treatment. Admitted by most authors, this prolapse is easily explained when we carefully study the course of the principal affection. In the beginning, hemorrhoids appear as the effects of hereditary predisposition, of constipation, a sedentary life, the abuse of stimulants, or of a too nutritious diet, and are at first formed only by a determination of blood to the vessels of the inferior extremity of the rectum; little tumors, invisible externally, are soon developed, and become the seat of itching and of tension, which increase under the influence of the producing causes, often disappear to return again, and are, in a great number of cases, accompanied by more or less abundant hemorrhages.

The affection in this simple state belongs to internal pathology, and a return to suitable hygienic rules, or the adoption of a very simple antiphlogistic treatment is, most frequently, sufficient to overcome it. But when, continuing to be developed, the hemorrhoidal tumors have acquired a certain volume, they begin to appear at the anal orifice, which they more or less obstruct; and however little the patient may be constipated, as is most usually the case, the hardened fæcal matters push down the tumors before them during the action of the bowels. The consequence is, that the mucous membrane of the rectum, necessarily following their movements, becomes as much lengthened as possible; but soon this extension ceases to be sufficient; united to the muscular membrane by a loose cellular tissue, it is gradually separated from it, and subsequently returns with progressively increasing difficulty, being retained externally by the hemorrhoidal masses, and the sphincter compressing them. If the patient, induced by deceptive inclinations to go to stool, by pain, or any other cause, acquires a habit

of making prolonged efforts at defecation, the hemorrhoids increase, and the prolapse of the mucous membrane augments to that point, that it soon becomes impossible to return it after each motion without the employment of a regular taxis. By degrees, the sphincter becoming relaxed, the hemorrhoids come down on the least movement; at last a period arrives when they remain constantly out, unless they are retained by a bandage specially adapted to the purpose, the presence of which—always inconvenient—finally becomes insupportable. These facts I have verified in a sufficiently great number of patients, and I shall hereafter quote cases which will establish them.

In some very rare instances a protrusion of the rectum and internal hemorrhoids coexist; we have, then, two distinct affections to treat. During ten years that I have attended my father's practice I have only once had an opportunity of observing this coincidence,* while I have often seen long-standing voluminous hemorrhoidal tumors accompanied by a more or less extensive prolapse of the rectal mucous membrane.

Since the month of April, 1844,† the date of the first employment of the cauterization of the base of hemorrhoidal tumors with grooved forceps charged with Filhos' caustic, the idea of which originated with me, we had perceived that this new mode of operation enabled us to obtain the cure of hemorrhoids, and that the hemorrhages, ulcerations, &c., disappeared together with the tumors; but it remained to be shown whether, in cases in which these affections should be complicated with tolerably extensive prolapse of the rectal mucous membrane, cauterization by the same plan would remedy the principal affection and its complication. Experience has not been tardy in justifying the hope we had entertained in this respect. It is, moreover, easy to account for this result, which we verified in all our operations of this kind, in reading the description of our proceeding. The cases of the patients in whom this complication was sufficiently advanced, and the drawings taken from nature, which I have appended to them, will, I trust, enable practitioners to understand it.

When we are about to examine a patient, whom we suppose to be affected with internal hemorrhoids, we cause him to place himself on a vessel, and to make efforts at defecation; the tumors then come down, and we easily demonstrate their presence; often they even permanently appear externally, or show themselves on the exercise of the least effort. But as it is necessary to judge precisely of the extent of the prolapse of the mucous membrane of the rectum, we advise the patient to take a lavement, and to pass it again in our presence some moments after, using efforts, and continuing the latter when he gets up. With the assistance of this mode of investigation, we arrive at an exact appreciation of the extent of the affection, and the operator is enabled to judge beforehand at what height he ought to place the *porte-caustique* forceps, in order to cure at once the hemorrhoidal affection, and the rectal prolapse which complicates it.

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* Mémoire sur la destruction des Hémorrhoïdes Internes, par la Cauterisation circulaire de leur Pédicule. Par J. Z. Amussat. 1836. Page 23.

† Ibid., p. 22.

The introduction of the index finger into the rectum is a means of diagnosis on which we must not place too much reliance, for I have known several patients who, examined in this manner by the most distinguished practioners, had been declared not to have hemorrhoids, and in whom I, nevertheless, found even voluminous ones. The surgeon accustomed to this mode of examination, indeed, experiences internally a peculiar sensation of softness in certain points, proves the existence of inequalities rather than of tumors disappearing under the finger, and gives pain to the patient when the tumors are ulcerated; but in general these signs are not sufficient to enable him to affirm whether a hemorrhoidal affection exists or not. The rectal *toucher* is especially useful in ascertaining whether any particular complication, such as a stricture, polypus, or cancer, coexists.

At the same time we examine the number of tumors which ought to be cauterized, as, for the following reasons, we never destroy them all:—In order not to suppress suddenly and completely a state to which the system has long been accustomed, and not to expose the patient to a disturbance which might not be free from inconvenience; besides, experience has shown, that when we have destroyed the more voluminous tumor when there are two, or the most voluminous ones when there are more, those which remain diminish and give much less inconvenience. The cauterization of the largest hemorrhoid, when well performed, often prevents the others coming out, and the ulcerations, if such exist, being no longer subjected to a continual friction against one another, cicatrize, and the patients enjoy as good health as if they had been completely freed from them. Consequently, a different mode of proceeding would be at least useless, and might sometimes be dangerous. If, contrary to what usually occurs, the patient should subsequently suffer, recourse might be had to the operation, which would not then be more severe than before, and would remedy an inconvenience which we sometimes meet with, but which much more frequently does not present itself.

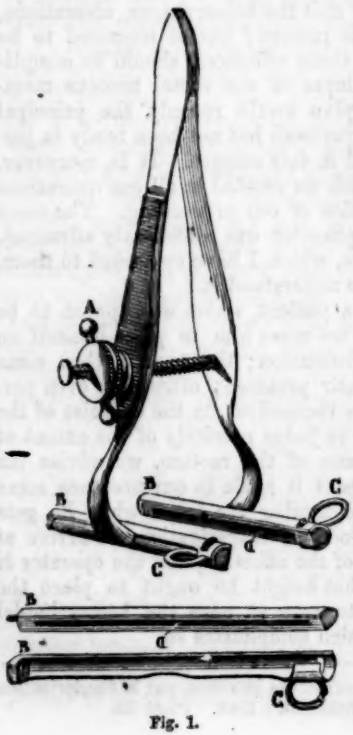

Fig. 1.

In ordinary cases I employ my forceps in the form of a compass with protecting blades,—more convenient when it is necessary to carry the cauterization to an elevated point of the rectum,—but in the case of which I am now speaking I prefer

the T-forceps of my father, or those which I have had made on the same plan, with very slight modifications. In fact, when there are voluminous hemorrhoids, with more or less extensive prolapse of the mucous membrane, the tumors expanding largely externally, it is very easy to cauterize their base.

Since the month of June, 1844, the period of the construction of my first grooved forceps for the cauterization of internal hemorrhoids, we have subjected both the instruments and the operative manipulation to numerous modifications, which have made the operation so simple that a perusal of the description of it will render its application easy; and already distinguished surgeons, among whom I would mention MM. Maher, J. Roux, and Laurencin, Professors in the schools of the Imperial Marine, MM. H. Larrey, Barthélemy, Martin Saint-Ange, Thirion (of Namur), Mascarel, &c., have employed this proceeding with success, using instruments made on the model of ours, or having the greatest analogy to them.

The T-shaped porte-caustique forceps of my father, a drawing of which is given on p. 114,* was made on the model of a little forceps he used for rupturing the internal membranes of arteries, in order to facilitate torsion. This instrument is composed of two legs, united at one of their extremities by a spring; at the other they are furnished with two grooved semicircles of steel, D, perpendicular in their direction, and so arranged as to oppose one another when the forceps is closed, or when it embraces the base of the tumor which it is wished to cauterize. Two small sliding plates, B, having a movement of rotation around the grooves, which are cylindrical, have at one of their extremities a small handle, C, intended to be used for moving them, and consequently to cover or uncover the caustic when it is thought advisable to do so. A screw, A, is used for tightening the legs of the instrument. The two sliding plates, to which I have given the name of protectors, have partly replaced the preserving forceps which we originally used for completely isolating the tumors from the surrounding parts previously to cauterizing them. When the protectors are placed in front of the grooves, the caustic being entirely covered, we may seize the tumors, let them go again, take hold of them, or slide the grooved semicircles to a greater or less height, without the patient experiencing the slightest painful sensation.

To fill the grooves of the instrument, I employ Filhos' caustic in paste, or solid. The caustic paste is made by throwing a sufficient quantity of pulverized Filhos' caustic into a saucer, adding some drops of alcohol or eau de Cologne, and triturating the mixture with a spatula. When the paste has the consistence of ordinary honey it is placed in the grooves, and covered with the protectors. To fill them with solid caustic, the latter is poured into them while in state of fusion.

I have had forceps made on this model with but a very slight difference, as may be seen by Fig. 2, on next page. This instrument, to

* This forceps is drawn one third less than its actual magnitude; the groove and blade, separately represented, are of the full size.

which I have given the name of *pince porte-caustique à étau* (these instruments have been made in the manufactories of M. Charrière), constructed at once on the model of my father's forceps, and of a little hand-vice, differs from his instrument in this,—that the grooves, B, which are movable on their axis, being placed in other grooves, A, attached to the legs of the forceps, may be withdrawn, and have the fused Filhos' caustic easily poured into them; besides, the resistance of its legs admits of the tumor being compressed as with a vice, and of the production of mortification by pressure. This forceps acts then at the same time by cauterization and pressure combined, and allows us to operate more rapidly, since each of these actions is separately sufficient, though it requires more time, to accomplish the mortification of the tumor. When about to use these forceps, the grooved pieces, B, are withdrawn, and fused Filhos' caustic is poured in so as to be level with the edges without overflowing them; should it overflow, it must be rubbed off with a cloth, or a piece of pumice stone, until it is exactly level; the two little grooves are then inclosed in a ground glass stoppered bottle filled with powdered lime, in order to preserve the caustic from the contact of the air, and from moisture. At the time of operating they are well wiped and replaced in the forceps, and turned round, so as to cover the caustic until the moment when it is to act upon the tissues. To effect the cauterization in this particular case I prefer the T-forceps, because, their grooved portions being parallel, they exercise upon the tissues a pressure in every sense equal; but this operation may be performed with the different forceps which have been constructed for cauterizing hemorrhoids; we may, even

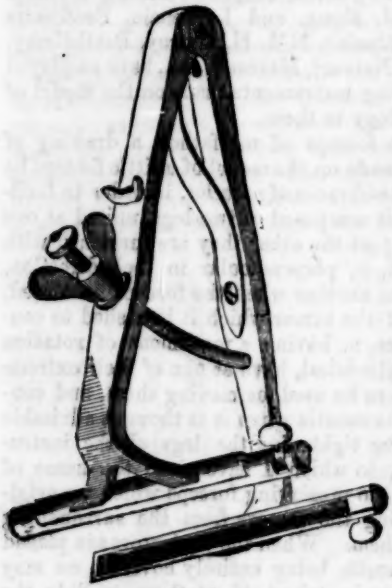

Fig. 2.

Fig. 3.

more easily than in other cases, cauterize the tumors with a cone of Filhos' caustic*, as I shall hereafter describe.

Internal hemorrhoids are often complicated with corresponding external hemorrhoids, or rather with swellings forming two rows of superposed tumors. Experience has proved that it is not necessary to destroy the external swellings—they die away when the internal hemorrhoids have been destroyed by caustic.

The operation having been decided on, I generally prepare the patient for several days previously with depuratives, baths, and mild regimen, even venesection, if it should appear necessary; and the evening before the operation I prescribe a purgative of cold-drawn castor oil, in order to unload the bowels, and to prevent the occurrence of alvine evacuations for two or three days at the least.

The articles necessary for the operation are: one or two porte-caustique forceps; pulverized Filhos' caustic; alcohol or eau de Cologne; a sheet folded square; a piece of oil-cloth; a syphon for continuous irrigation; a syringe, or a clyso-pump; two large vessels, one to contain cold water, intended for the irrigation to be carried on during the operation; the other to receive the fluid when it shall have passed over the anus.

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* The composition of Filhos' caustic is as follows:—

Caustic potash, prepared with lime	2 parts.
Quicklime	1 part.

Melt this mixture in a crucible, and run it, either in an ingot-mould, or in tubes of lead, zinc, or of very thin silver, as is practiced by M. Robiquet. Cut every part of the metallic cover, so as to expose a portion of the caustic, when needed for cauterization, direct and in masse, of hemorrhoidal tumors, or of any other excrescence, or of the neck of the uterus. This same caustic, when it is in fusion, can be run into thin plates by pouring it rapidly on a marble table, and in this state I often use it for linear cauterization.

When caustic in powder is needed we crush these blades, or bits of fused caustic of any other shape, in a marble mortar, and preserve it in a flagon, hermetically closed with an emery-fitted stopper. At the moment when we are about to operate, we mix in a saucer a portion of this powder with a little alcohol, so as to make a pretty stiff paste, which we place in the basins of the forceps.

The proportions of this caustic are different from those of the Vienna paste, which is composed of

Caustic potash, prepared with lime	5 parts.
Quicklime	6 parts.

As will be observed, in the caustic of Filhos the potash is in excess by one third, while in the caustic of Vienna it is the lime which is in excess by one sixth.

M. Filhos has observed that the excess of lime in the Vienna caustic renders the igneous fusion of the mixture more difficult, gives to the new compound a little too much consistence to be run with facility into the metallic tubes, and has, as a practical result, the serious inconvenience of diminishing the promptitude of its caustic action; a less quantity of quicklime would impart to the solidified mixture a portion of its deliquescence. Three minutes suffice with this caustic for making the escar necessary to establish a cautery. For cauterization of the neck of the uterus, it possesses all the advantages of iron at a red heat, without its inconveniences; for we may have the sticks of caustic so slender that they may be easily introduced into the interior of any ulcerated neck which it may be thought necessary to cauterize.

Before the operation the bed on which it is to be performed should be arranged. The folded sheet is placed across it, and is covered with an oil-cloth reaching to the vessel placed under the edge of the bed, to receive the water projected during the operation; and in order that the latter may flow off easily, the two inferior angles of the oil-cloth should be pinned together, so as to form a channel to carry the water directly into the vessel intended to receive it.

The patient, having taken a lavement during these preparations, passes it again, at the moment of operation, into a vessel left near the bed, and then lies down, still keeping up the efforts at expulsion, which are indispensably necessary to allow the surgeon to place the forceps properly.

The position of the patient which I prefer is the same as that for the operation for fistula in ano. Doubtless, if the patient were on his knees, or placed as for the operation of lithotomy, he would be better circumstanced for keeping up the efforts; but notwithstanding the advantage the operator might have by employing one or other of these positions, I have renounced them on account of the fatigue the patients experience—a degree of fatigue which once seemed to me to have occasioned syncope.

I am not in the habit of submitting my patients to the action of anæsthetic agents unless they earnestly request it; knowing by experience that the operation is not sufficiently painful to render their employment necessary, for under the influence of the very strong compression used, and of the douches of cold water, the pain is easily borne. During the operation the patient feels a pinching, which, in a great measure, masks the pain of cauterization, and consequently only complains of the latter at the moment of the withdrawal of the instrument. This smarting, besides, is diminished rapidly enough by the means I employ immediately after the operation. Two assistants placed at the sides are engaged in holding back the neighboring parts; a third is occupied in directing a continued stream of cold water on the anal region. Strictly speaking, one assistant, and that even a non-medical person, might be sufficient, as he would only have to work the piston of the instrument, for the operator could direct the current of liquid with the left hand, while he held the forceps in the right, but it is much more convenient to be assisted by several persons.

The patient having been placed on the bed in the manner described, and continuing the efforts at defecation made in passing the lavement, the assistants carefully keep back the surrounding parts. The operator, holding in his right hand the porte-caustique forceps with its troughs covered, so as to be able to touch the tissues without causing the least painful sensation, seizes the tumor gently, without compressing it, and desires the patient to make efforts, if possible, still more energetic, in order to allow him to pass the instrument to the height he judges advisable. This period of the operation, very important in all cases, is especially so in this. When the forceps is well placed, he tightens the screw sufficiently to prevent the tumor escaping, but so as to be able with ease to turn the grooved pieces or the protectors. When the caustic is in contact with the tissues, the instrument is

tightened as much as possible, but gradually, in order to bring the compression to its maximum. By acting thus, the duration of the operation is shortened, and the pain is diminished, the patient most

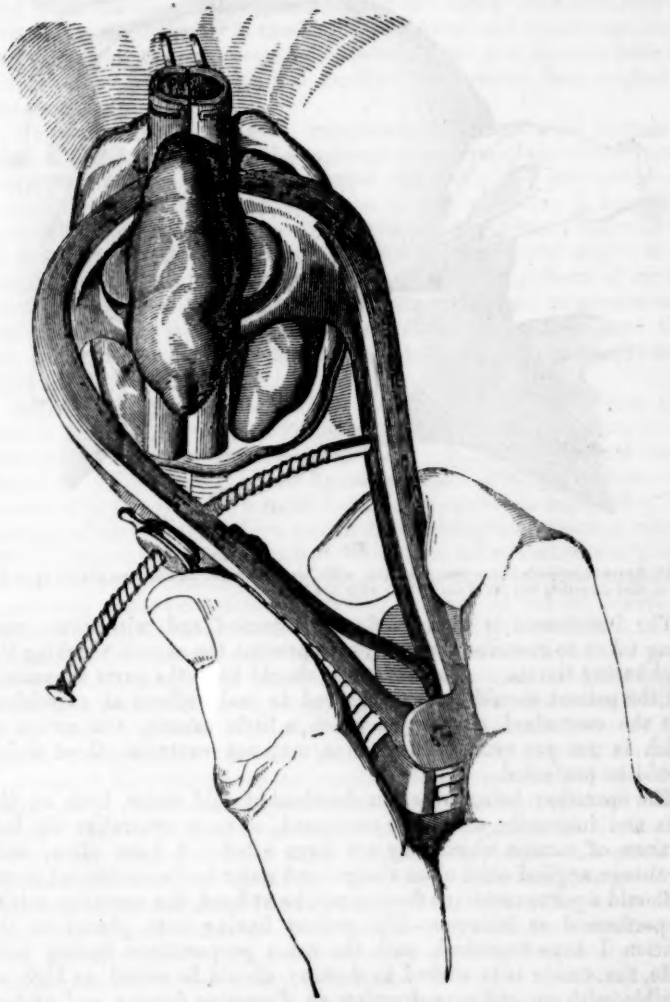

Fig. 4.

This figure represents a voluminous tumor caught with my forceps and vice with the caustic acting. For the representation of the pathological state, see Fig. 8.

frequently complaining only of the pressure. The douche of cold water is immediately commenced, and continued while the operation lasts, which varies from two to four minutes. With strong forceps and fused caustic two minutes are longer than is necessary for cauterization.

The time, however, as may be supposed, varies according to the bulk of the tumors to be destroyed.

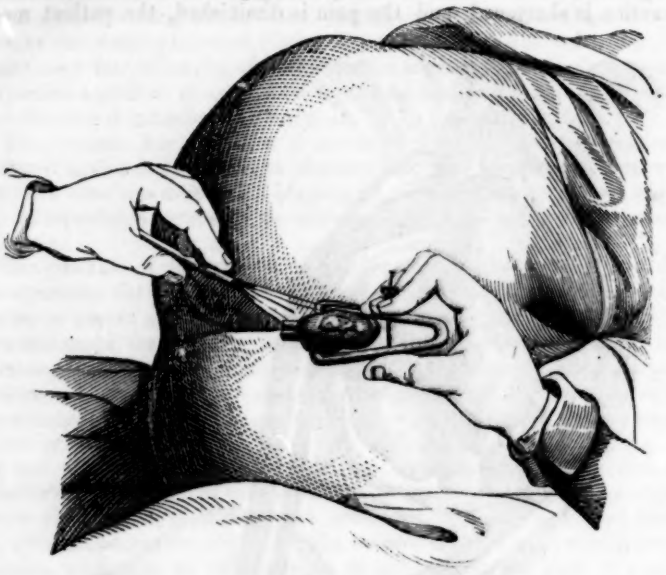

Fig. 5.

This figure represents the operator holding with his right hand the forceps placed upon the tumor, and directing the jet of cold water with the left.

The instrument is then gradually loosened and withdrawn, care being taken to re-cover the grooves to prevent the caustic touching the neighboring tissues. The assistants should keep the parts separated, and the patient should be again desired to make efforts at expulsion, that the cauterized tissues, on which a little caustic, the action of which is not yet over, still remains, may not cauterize those which should be protected.

The operation being over, the douches of cold water, both on the anus and internally, should be continued, so as to neutralize the last portions of caustic which may not have acted. I have often, with advantage, applied olive oil or vinegar and water to the cauterized parts.

Should a porte-caustique forceps not be at hand, the operation might be performed as follows:—The patient having been placed in the position I have described, and the same preparations having been made, the tumor it is wished to destroy should be seized, as high as possible, with an ordinary dressing or dissecting forceps, and cauterized directly, by placing in the centre a stick of Filhos' caustic cut into a conical shape, to which a rotatory motion should be given to make it penetrate the hemorrhoid, so as to destroy it centrally and laterally. It would be necessary, during the operation, to protect the surrounding parts with spatulas or paper knives, and afterward to wash the cauterized tumor with slightly acidulated water, so as to neutralize

all the caustic which might not have combined with the tissues. The subsequent treatment should be the same as in the ordinary proceeding.

Immediately after the operation the patient is placed in a large bath, and when the tumors have been bathed for some moments they are returned. He remains in the bath for an hour, and sometimes longer, and always experiences great relief from it; for it is then he feels the action of the caustic, which had, during the operation, been masked by the pressure.

On coming out of the bath, cataplasms of linseed meal inclosed in muslin bags are applied to the anal region, or irrigations of tepid water are directed to the part, if smarting is still felt. The pain which patients experience after the operation is very variable; I have seen some who felt very acute smarting for twenty-four hours; but with the majority the painful sensation is, after some hours, but slight, if the precautions already mentioned have been observed. Some of my patients do not go to bed even the day of the operation; in general they remain sitting or lying on a sofa—for walking causes pain—and they are unable to go out for some days; elderly patients generally keep their room for a fortnight.

After the operation I allow but little nourishment, and that of a nature admitting of easy assimilation, in order to avoid action of the bowels, which always occasions acute pain. When the patients feel a desire to go to stool, I advise them to inject into the rectum two ounces of lard melted in a water bath; it is useful in facilitating the passage of the fæcal matters, and in diminishing the smarting caused by the motion. A tepid sitz-bath should be taken immediately after the stool. Sometimes I give, during the treatment, a gentle purgative, in order to remove constipation when the eschar is not yet detached; while it is, on the other hand, advisable that the patient should not go to stool at the time when the cauterized tumor is separating, in order to avoid the flow of blood which might then take place. An examination of the parts enables us to get a glimpse of the cauterized hemorrhoid, and to ascertain whether elimination proceeds more or less quickly; experience, however, has shown that, in general, the older and weaker the patients are the more slowly this process goes on. The falling off of the eschars requires a very variable time, generally from five to eight days. I have seen some become detached at the end of seventy-two hours, while in other patients they were still adherent fourteen days after the operation. To render the consequences of the operation as favorable as I have described, the patient ought to take every day several sitz-baths at a moderate temperature, rather cool than warm, to keep cataplasms or water-dressing constantly on the anal region, and to use a very light diet. When the swelling has disappeared the same treatment should be continued for some days, but the nourishment may be gradually increased; we may then, with advantage, form our opinion of the result of the operation, and decide whether it is necessary to cauterize other hemorrhoids.

Such are the operative manipulation and the treatment I employ in the affection under consideration.

(*To be Continued.*)

PART FOURTH.

AMERICAN MEDICAL RETROSPECT.

Proceedings of the Eighth Annual Meeting of the American Medical Association, held in Philadelphia, May 1st, 1855.

THE Eighth Annual Meeting of the American Medical Association, was held in Philadelphia, in the Saloon of the Musical Fund Hall.

The session was opened at 11 o'clock, A.M., the President, Dr. C. A. Pope, of Missouri, in the chair.

The President called the Association to order, and announced that the first order of business was the reception of the report of the Committee of Arrangement on the Credentials of Members.

Dr. Hays, Chairman of that Committee, presented the Report.

The roll was then called by the Secretary, Dr. West. The following list comprises the number, not only of the Delegates and members in attendance at the opening of the session, but those also who subsequently presented themselves.

Maine, 9; New Hampshire, 5; Vermont, 5; Massachusetts, 54; Rhode Island, 8; Connecticut, 35; New York, 81; Pennsylvania, 130; New Jersey, 44; Maryland, 31; District of Columbia, 12; Virginia, 18; North Carolina, 5; South Carolina, 17; Georgia, 1; Alabama, 4; Tennessee, 3; Kentucky, 8; Ohio, 28; Indiana, 5; Illinois, 9; Missouri, 5; Iowa, 1; Wisconsin, 5; Michigan, 9; United States Navy, 4; Parisian Medical Society, 1.

On motion of Dr. Biddle, of Pennsylvania, the President, Dr. C. A. Pope, was now requested to deliver the annual address.

On motion of Dr. J. B. Biddle, of Pennsylvania, it was

Resolved, That the thanks of the Association be tendered to the President for his able and interesting address, and that he be requested to furnish a copy of it to the Committee of Publication.

On motion of Dr. J. B. Biddle, of Pennsylvania, it was

Resolved, That a committee of one member from each State represented be chosen by the respective delegations of each State, to nominate officers for the ensuing year.

On motion, a recess of five minutes was taken to enable the delegations to carry out the object of the above resolution.

At the termination of the recess, the Association was called to order, when each of the delegations reported their representative on the Nominating Committee, as follows:

Maine, A. J. Fuller; New Hampshire, Silas Cummings; Vermont, G. T. Elliott; Massachusetts, C. P. Fiske; Rhode Island, Jos. Mau-

ran; Connecticut, P. A. Jewett; New York, John McCall; Pennsylvania, J. B. Biddle; New Jersey, Lewis Condict; Delaware, Jas. W. Thompson; Maryland, Charles McGill; District of Columbia, Thomas Miller; Virginia, B. R. Wellford; North Carolina, O. F. Manson; South Carolina, P. C. Gaillard; Georgia, Richard D. Arnold; Alabama, P. H. Cabell; Tennessee, J. Berrien Lindsley; Kentucky, C. J. Blackburn; Ohio, R. Hills; Indiana, Joel Pennington; Illinois, J. V. Z. Blaney; Michigan, A. B. Palmer; Missouri, L. B. Perry; Iowa, J. E. Sanborn; Wisconsin, J. B. Dousman; U. S. Navy, Thomas Dillard.

Dr. Condie, of Pennsylvania, offered the following resolution:—

Resolved, That all permanent members who, in consequence of not having received in due time notification of their indebtedness, have had their names stricken from the roll, but who have since paid, or may hereafter pay their assessment, shall have their names restored to the list of permanent members.

Dr. Watson, of New York, offered the following as an amendment:—

Resolved, That no permanent member of this Association shall be deprived of his privileges as a permanent member on account of failing to contribute to the funds at any meeting at which he is not in attendance.

After some debate, on motion of Dr. White, of New York, the above resolutions were referred to a committee of three, with instructions to report what action, if any, is expedient in the premises.

The chair appointed Dr. White, of New York, Dr. Watson, of New York, and Dr. Condie, of Philadelphia, this committee.

Dr. F. C. Stewart, of New York, offered the following resolution:—

Resolved, That the Nominating Committee be instructed to present three names to the Association as candidates for the office of President, that the election of President shall be by ballot, and that the candidate who shall have the smallest number of votes, shall be withdrawn after the first ballot;—which, on motion of Dr. Boyle, of D. C., was laid on the table.

On motion of Dr. Atlee, of Pennsylvania, it was

Resolved, That the Nominating Committee be instructed to recommend the place for the next annual meeting of the Association.

Invitations to the Association were extended respectively by Dr. Pitcher, of Michigan, on behalf of the medical profession of Detroit; by Dr. Foster, of Tennessee, on behalf of the profession of Nashville; and Dr. Brainard, of Illinois, on behalf of the profession of Chicago, to hold its next session in the above-named cities. These invitations were, on motion, referred to the Committee on Nominations.

On motion of Dr. Frank A. Ramsey, of Tennessee, it was

Resolved, That so much of the President's Address, as refers to the subject of the place and mode of meeting of the Association be referred to the Nominating Committee.

Dr. D. D. Thomson, of Kentucky, moved that the regular order of business be suspended, in order to take up the amendments to the Constitution offered at the last annual meeting.

Several members objected, and the motion was lost.

The President stated that the next business in order was the reception of "members by invitation," when,

On motion of Dr. Condie, the names of all "members by invitation," were referred to the Committee of Arrangement.

The President announced that the next business in order was the reports of the different committees appointed at the last annual meeting.

Dr. La Roche, on behalf of the Committee on Prize Essays, reported that the committee had received six essays in competition for the prize offered by the Association. That, although these essays evinced much ability and extensive learning, but one was decided to possess those qualities which deserved the award of the prize. The essay was entitled "Statistics of Placenta Prævia." The accompanying envelope was opened, and the name of the author was announced as Dr. James D. Trask, of White Plains, New York.

On motion of Dr. Condie, it was

Resolved, That the essay be referred to the Committee on Publication.

The following committees were called upon, but no reports were received:—

1. Dr. Worthington Hooker, of New Haven, on the Epidemics of New England and New York.
2. Dr. John L. Atlee, of Lancaster, Pennsylvania, on the Epidemics of New Jersey, Pennsylvania, Delaware, and Maryland.
3. Dr. W. D. Haskins, of Richmond, Virginia, on the Epidemics of Virginia and North Carolina.
4. Dr. D. J. Cain, of Charleston, South Carolina, on the Epidemics of South Carolina, Florida, Georgia, and Alabama.
5. Dr. W. L. Sutton, of Georgetown, Kentucky, on the Epidemics of Tennessee and Kentucky.
6. The Committee on the Prevailing Diseases of Missouri, Illinois, Wisconsin, and Iowa, Dr. Reyburn, chairman, presented their report with an abstract of the same, which last was read; and the former was, on motion, referred to the Committee on Publication.

The regular order of business was here interrupted, by permission, in order to receive the report of a special committee, when Dr. White, on behalf of the committee to which was referred certain resolutions in regard to the duties and privileges of permanent members, reported the following resolutions, which were adopted:—

Resolved, That no permanent member, who is not present at a meeting of the Association, shall be required to pay the annual assessment; but no such permanent member shall be entitled to receive a copy of the printed *Transactions* unless he pay into the treasury a sum not less than the annual assessment paid by the delegates and permanent members in attendance; and that all the names of permanent members that have been left off the published list, be inserted therein in the next volume of *Transactions*.

Resolved, That no assessment whatever shall be made against members by invitation, but that they also be entitled to a copy of the printed *Transactions* by paying the sum assessed upon delegates in attendance.

The regular order of business was now resumed, which was the report of Standing Committees.

The following committees were in succession called, but no reports were received:—

7. Dr. George Mendenhall, of Cincinnati, Ohio, on the Epidemics of Ohio, Indiana, and Michigan.
8. Dr. E. D. Fenner, of New Orleans, Louisiana, on the Epidemics of Louisiana, Mississippi, Arkansas, and Texas.

9. Dr. James Jones, of New Orleans, Louisiana, on the Mutual Relations of Yellow and Bilious Remittent Fever.

10. Dr. D. F. Condie, of Philadelphia, Pennsylvania, on the Causes of Tuberculous Disease.

11. Dr. Joseph Leidy, of Philadelphia, Pennsylvania, on Diseases of Parasitic Origin.

12. Dr. A. P. Merrill, of Memphis, Tennessee, on the Physiological Peculiarities and Diseases of Negroes.

13. Dr. Joseph N. McDowell, of St. Louis, Missouri, on Statistics of the Operation for the Removal of Stone in the Bladder.

14. Dr. F. Peyre Porcher, of Charleston, South Carolina, on the Toxicological and Medicinal Properties of our Cryptogamic Plants.

15. Dr. Daniel Brainard, of Chicago, Illinois, on the Constitutional and Local Treatment of Carcinoma.

16. Dr. George Engleman, of St. Louis, Missouri, on the Influence of Geological Formation on the Character of Disease.

17. Dr. Henry Taylor, of Mount Clemens, Michigan, on Dysentery.

18. Dr. Horace Green, of New York, on the Use and Effect of Applications of Nitrate of Silver to the Throat, either in Local or General Disease.

19. Dr. P. Claiborne Gooch, of Richmond, Virginia, on the Administration of Anæsthetic Agents during Parturition.

20. Dr. Charles Hooker, of New Haven, Conn., on the Diet of the Sick.

This report was read and referred to the Committee on Publication.

21. Dr. E. R. Dabney, of Clarkesville, Tennessee, on Certain Forms of Eruptive Fevers, prevalent in Middle Tennessee.

Dr. Sanford B. Hunt, of Buffalo, New York, from the Committee on the Hygrometrical State of the Atmosphere in various localities, and its influence on health, submitted a report, pending the reading of which

Dr. White, of New York, moved that this report, with the other reports of the Special Committees, be referred to the Committee on Publication, with the thanks of the Association to their authors.

Objections were urged against this course, and the motion was laid on the table by a very large vote.

The hour for terminating the session having then arrived, the Association adjourned.

Wednesday, May 2.—The Association met at 9 o'clock, Dr. Pope, of Missouri, in the chair.

The minutes of yesterday's meeting were read and approved.

On motion of Dr. Condie, it was

Resolved, That the Secretaries of this Association be requested to afford every facility possible to the reporters of the public press, to enable them to furnish full and accurate reports of the transactions.

Dr. Atlee, of Pennsylvania, announced, on behalf of a committee of which he was the chairman, the completion of the stone ordered to be prepared as a contribution, on behalf of the Association, to the Washington monument.

Dr. Atlee appealed to the members to come forward and make up a handsome compensation for the young artist.

On motion of Dr. Sanders, of New York, it was

Resolved, That no member should speak unless his name and residence were first announced.

Dr. Hays then read the list of members and delegates, whose names had been registered since the calling of the roll on the previous day.

Dr. J. B. Biddle, of Pennsylvania, chairman of the committee of one from each State to nominate officers for the present year, reported the following as the unanimous nomination of the committee:—

President—Geo. B. Wood, M.D., of Pennsylvania.

Vice-Presidents—Wm. M. Boling, of Alabama; Daniel Tilden, of Ohio; D. Humphreys Storer, of Massachusetts; Grafton Tyler, of the District of Columbia.

Secretaries—Francis West, of Pennsylvania; R. C. Foster, of Tennessee.

Treasurer—Caspar Wister, of Pennsylvania.

Committee on Publication—Francis G. Smith, of Pennsylvania, Chairman; Francis West, of do.; Samuel L. Hollingsworth, of do.; H. F. Askew, of Delaware; Samuel Lewis, of Pennsylvania.

The committee also recommended, but not unanimously, *Nashville*, Tennessee, as the next place of holding the annual meeting.

On motion of Dr. Post, of New York, it was

Resolved, That the question of the confirmation of the officers, and of the place of meeting, be taken separately.

So much of the report as related to the nomination of officers, was then, on motion of Dr. Rogers, of Pennsylvania, adopted.

On motion of Dr. White, of New York, it was

Resolved, That a committee of three be appointed to inform the President and Vice-Presidents elect, of the choice of the Association, and to conduct them to their respective seats.

The chair appointed Drs. J. M. Smith, of New York; Blackburn, of Kentucky; Homans, of Massachusetts; Rouse, of Illinois; and Frost, of South Carolina. The officers were then conducted to their seats by the committee.

The President, on taking his seat, expressed his thanks to the Association in a neat and appropriate address for the honor conferred upon him.

On motion of Dr. Biddle, of Pennsylvania, the thanks of the Association were tendered to the retiring President, Dr. Charles A. Pope, and to Drs. Davis, Wragg, Green, and Fenner, late Vice-Presidents of the Association, to Dr. E. S. Lemoine, the retiring Secretary, and to Dr. Isaac Wood, of New York, the retiring Treasurer, for their able and faithful discharge of their respective duties.

Dr. Post, of New York, moved that the next place of meeting be the City of Washington.

Dr. Watson, of New York, moved, as an amendment, to substitute the City of Detroit for Washington.

Dr. L. A. Smith, of New Jersey, moved, as a further amendment, the substitution of Nashville for Detroit.

After some discussion, Detroit was selected as the place for the next meeting.

Dr. Foster, one of the newly elected Secretaries, then tendered his resignation, which was, on motion, accepted; and Dr. Brodie, of Michigan, was chosen to fill the vacancy.

Dr. C. Jones, of Ohio, was made a member by invitation.

The Association now proceeded to the regular order of business, which was the reception of the reports of committees, and the calling of the list was proceeded with.

22. Dr. Sanford B. Hunt, of Buffalo, New York, on the Hygrometrical State of the Atmosphere, in various Localities, and its Influence on health.

An abstract of this report was read by its author, and, on motion, the report was referred to the Committee on Publication.

23. Dr. Frank H. Hamilton, of Buffalo, New York, on the Frequency of Deformities in Fractures.

The author read an abstract of this report, and made some remarks on the objects aimed at in his investigations.

On motion, the report was referred to the Committee on Publication.

On motion of Dr. Hintzé, it was

Resolved, That a committee of one from each State be appointed by the chair to use their influence with the rail road and steam boat companies, in their respective States, to issue commutation tickets to the delegates to the American Medical Association, and their immediate families, who may design attending the meeting of the Association in May, 1856.

The following were appointed the committee:

Maine, Dr. E. R. Peaslee; New Hampshire, Dr. Josiah Crosby; Vermont, Dr. J. Perkins; Massachusetts, Dr. J. Homans; Rhode Island, Dr. Joseph Mauran; Connecticut, Dr. P. A. Jewett, *Chair'n;* New York, Dr. James P. White; Pennsylvania, Dr. Francis West; New Jersey, Dr. Lyndon A. Smith; Delaware, Dr. James W. Thompson; Maryland, Dr. F. E. B. Hintzé, *Sec.;* Dist. of Columbia, Dr. Grafton Tyler; Virginia, Dr. B. R. Welford; North Carolina, Dr. O. F. Manson; South Carolina, Dr. R. F. Michel; Georgia, Dr. Richard D. Arnold; Alabama, Dr. William M. Boling; Tennessee, Dr. J. B. Lindsley; Kentucky, Dr. C. J. Blackburn; Ohio, Dr. Daniel Tilden; Illinois, Dr. Rudolphus Rouse; Missouri, Dr. Charles A. Pope; Iowa, Dr. J. E. Sanborn; Wisconsin, Dr. J. R. Bartlett; Michigan, Dr. Zina Pitcher.

The hour of 12 M. having now arrived, a recess of one hour was taken, and the Association proceeded to the reception by the Mayor at Independence Hall.

Dr. Isaac Hays, of Philadelphia, in behalf of the Committee of Arrangements, introduced the members of the Association.

The Association reassembled at 1 P. M., the President, Dr. Wood, in the chair.

On motion of Dr. Davis, of Illinois, it was

Resolved, That the thanks of the Association be gratefully returned to the Mayor of the City of Philadelphia for the very cordial reception extended to it in Independence Hall, and also that a copy of his very eloquent address, and that of the chairman of the Committee of Arrangements, be requested for publication in the *Transactions* of the Association.

On motion of Dr. Askew, of Delaware, the rules of order were suspended for the purpose of allowing Dr. J. W. Thompson, of Delaware, to offer the following preamble and resolutions:

Whereas, That as few subjects of greater interest and importance could be presented to the consideration of the American Medical Association, now representing most of the States and Territories of the Union, than the attainment of a correct Medical Topography of each, with a history of its prevailing fevers and most successful treatment of the same, therefore be it

Resolved, That with this view and conviction, this Association appoint a Special Committee for each State and Territory represented, of —— members, whose duty it shall be to report upon its medical topography, epidemic fevers, and the most successful treatment thereof, and that the same shall continue to hold their office for three years.

Resolved, That as other States and Territories not now represented, become so by delegates duly appointed to this National Association, that similar committees shall be appointed for like purpose, and that they also shall hold their office for three years.

Resolved, That in the appointment of gentlemen of education and experience in the affairs of their own State, we have the best guarantee that the important objects we seek will be more satisfactorily accomplished, and the profession as well as the public interest will thereby be better served.

Resolved, That the committees heretofore appointed by this Association, at its session in Charleston, for a similar object, be, and the same are hereby discharged.

On motion of Dr. Askew, of Delaware, the foregoing preamble and resolutions were ordered to lie on the table and made the special order for to-morrow (Thursday) at 10 o'clock.

Dr. Earle, of New York, presented the report of the Committee on Publication, which was accepted, and, on motion, the following preamble and resolution accompanying it were adopted:

In view of the delay in publication, which is liable to be occasioned by the reference to the Committee on Publication, of reports and other papers of which abstracts alone are presented to the Association, the Committee would recommend for adoption the following resolution:

Resolved, That hereafter, beginning with the session for 1856, no report or other paper shall be entitled to publication in the volume for the year in which it shall be presented to the Association, unless it be placed in the hands of the Committee on Publication on or before the first of June.

Dr. Biddle, of Pennsylvania, offered the following resolution, which was adopted:

Resolved, That the thanks of the Association are eminently due to the Committee on Publication for the faithful and highly satisfactory manner in which their arduous and responsible duties have been discharged.

Dr. Wood, of New York, presented his report as Treasurer of the Association, and also his account properly audited, which, on motion of Dr. Condie, of Pennsylvania, was accepted and referred to the Committee on Publication.

On motion of Dr. Watson, of New York, it was

Resolved, That one thousand dollars be appropriated to defray the expenses incurred by the committee in preparing the stone for the Washington monument, and that the balance necessary to make up the said sum beyond the money already collected by the committee, be drawn from the funds in the treasury prior to the opening of the present session.

Resolved, That Dr. Atlee, Chairman of the Committee, be authorized to draw upon the treasurer for the sum necessary to make up the balance.

The regular order of business, the reception of reports of Standing Committees, was then resumed.

24. Dr. M. M. Pallen, of St. Louis, Missouri, on Puerperal Convulsions.

25. Dr. G. S. Walker, of St. Louis, Missouri, on Diseases of the Prostrate Gland,

26. Dr. H. A. Johnson, of Chicago, Illinois, on the Excretions, as an Index to the Organic Changes going on in the system.

On motion of Dr. Davis, of Illinois, this committee was continued.

27. Dr. Leroy H. Anderson, of Sumpterville, Alabama, on Typhoid Fever and its Complications, as it prevails in Alabama.

28. Dr. W. H. Byford, of Evansville, Indiana, on the Pathology and Treatment of Scrofula.

An abstract of this report was read by the Secretary, and, on motion, the report was referred to the Committee on Publication.

29. Dr. N. S. Davis, of Chicago, Illinois, on the Nutritive Qualities of Milk, and the Influence produced thereon by Pregnancy and Menstruation, in the Human Female, and by Pregnancy in the Cow; and also on the Question whether there is not some mode by which the nutritive constituents of milk can be preserved in their purity and sweetness, and furnished to the inhabitants of cities in such quantities as to supersede the present defective and often unwholesome modes of supply.

This report was read, and on motion referred to the Committee on Publication, and the Committee on the subject continued.

The following preamble and resolutions were offered by Dr. W. J. C. Duhamel, of Washington, D. C., and adopted.

Whereas, The cause of humanity, and a due regard to public health, imperatively demand the speedy enactment of further and more stringent quarantine laws to prevent the spread of infectious diseases through our country; and, whereas, distinguished legislators have co-operated with the medical profession in bringing this important subject to the attention of Congress; therefore

Resolved, That, warmly approving of the bill introduced at the last session of Congress (and yet pending), to prevent sickness and mortality on shipboard, we cordially tender to the honorable Senators of the Special Committee, who so ably and earnestly advocated the measure, this expression of our sincere thanks for their unwearied exertions in behalf of the bill framed after the manner recommended by this Association, and yet indulge in the gratifying hope that their efforts in the cause of public welfare and of suffering humanity will be crowned with success.

Resolved, That the aforesaid preamble and resolutions be forwarded by the officers of the Association to the authorities at Washington.

THURSDAY, May 3d.—The Association assembled at 9 A. M., the President, Dr. Wood, of Pennsylvania, in the chair.

The minutes of the last meeting were read and approved.

The President stated that it had been usual to refer the appointment of the various standing committees to the Committee on Nominations. Whereupon, on motion of Dr. Watson, of New York, it was

Resolved, That these appointments be referred to that Committee.

The Association then proceeded to the consideration of the reports of the various committees.

30. Dr. E. B. Haskins, of Clarkesville, Tennessee, on Microscopical Investigations of Malignant Tumors.

A letter was read from the Chairman of this Committee, stating that he had not the means of carrying out the object of the Committee, and asking to be discharged, which was agreed to.

The following committees were called on, but no reports received:—

31. Dr. George R. Grant, of Memphis, Tennessee, on the Sulphate of Quinia as a Remedial Agent in the Treatment of Fevers.

32. Dr. R. R. McIlvaine, of Cincinnati, Ohio, on the Study of Pathology at the Bedside.

33. Dr. E. S. Cooper, of Peoria, Illinois, on Orthopædic Surgery.

34. Dr. Andrew F. Jeter, of Palmyra, Missouri, on the Modus Operandi of the Envenomed Secretions of Healthy Animals.

35. Dr. Samuel M. Smith, of Columbus, Ohio, on Insanity.

36. Dr. R. La Roche, of Philadelphia, Pennsylvania, on the Jaundice of Yellow Fever, in its Diagnostical and Prognostical Relations.

37. Dr. Charles Quarles Chandler, of Rocheport, Missouri, on Malignant Periodic Fevers.

38. Dr. S. B. Chase, of Portland, Maine, on Typhoid Fever in Maine.

A communication was read from Dr. Reyburn, of Mississippi, suggesting that the District, composed of Missouri, Illinois, Wisconsin, and Iowa, be divided, and also offering his resignation as Chairman of the Committee appointed to report upon the epidemics of those States, and on motion of Dr. Askew, of Delaware, it was

Resolved, That so much of said communication as refers to the division of districts be referred to the Committee on Nominations, and that the resignation of Dr. Reyburn be accepted.

39. The Committee on Plans of Organization for State and County societies, Dr. A. B. Palmer, of Michigan, was called, when the chairman stated that the Committee were not prepared to report.

40. Committee on Medical Literature, Dr. R. J. Breckenridge, of Kentucky, Chairman, was called, when a letter was read from the chairman, stating his excuses for not having his report prepared, and after considerable discussion the Committee was continued.

41. Committee on Medical Education, Dr. Wm. H. Anderson, of Alabama, Chairman, was called on, when a letter was read from the chairman, stating his reasons for not having his report ready, and asking to be continued.

After some discussion upon the general question of the propriety of continuing committees who failed to present their reports in time, on motion of Dr. J. L. Atlee, of Pennsylvania, it was

Resolved, That the further consideration of the subject be postponed in order to receive the report of the Committee on Nominations.

Dr. J. B. Biddle, Chairman of this Committee, made the following report:—

The Committee on Nominations, to which was referred the resolutions in reference to the appointment of a Committee on Medical Typography and Epidemics, report the resolutions with a recommendation that they be adopted.

They recommend the following gentlemen to compose the committee of one from each State and Territory, to be appointed in accordance with the resolutions, viz.:—

Maine, J. C. Weston, of Bangor; New Hampshire, Edmund R. Peaslee, Dartmouth College; Vermont, Joseph Perkins, of Castleton; Rhode Island, Joseph Mauran, Providence; Connecticut, Charles Hooker, New Haven; Massachusetts, George C. Shattuck, Boston; New York, Joseph M. Smith; New Jersey, Lyndon A. Smith, Newark; Pennsylvania, Jacob M. Gemmill, Huntingdon County; Delaware, James W. Thompson, Wilmington; Maryland, Peregrine Wroth, Chestertown; Georgia, John F. Posey, Savannah; Virginia, P. F. Peebles, Petersburg; District of Columbia, Thomas Miller, Washington; South Carolina, D. J. Cain, Charleston; North Carolina, O. F. Manson, ——; Kentucky, Wm. L. Sutton, Georgetown; Tennessee, E. B. Haskins, Clarkeville; Louisiana, E. D. Fenner, New Orleans; Minnesota, J. H. Murphy, St. Anthony's Falls; Ohio, G. Mendenhall, Cincinnati; Mississippi, T. J. Grafton, Rodney; Missouri, S. B. Alleyne; Michigan, J. H. Beech, Cold Water; Alabama, S. W. Chanton, Warsaw; Illinois, John Evans, Chicago; Indiana, Vierling Kersey, Milton, Wayne County; Wisconsin, Alfred L. Castleton, Delafield; Iowa, E. A. Arnold, Davenport; U. S. Navy, Thomas Dillard, Philadelphia; U. S. Army, Clement A. Finley.

The committee report that, in their opinion, it is inexpedient to make any change in the Constitution, in regard to the time and place of meeting of the Association.

The following special committees were appointed to report upon the subjects named:—

Dr. Lewis H. Steiner, of Washington, District of Columbia, on Strychnia—its chemical and toxicological properties.

Dr. Asbury Evans, of Covington, Kentucky, on Tracheotomy in Epilepsy.

Dr. J. Taylor Bradford, of Augusta, Kentucky, on the Treatment of Cholera.

Dr. Charles Q. Chandler, of Rocheport, Missouri, on Malignant Periodic Fevers.

Dr. H. A. Johnson, of Chicago, Illinois, on the Excretions as an Index to the Organic Changes in the System.

Dr. Henry J. Bigelow, of Boston, Massachusetts, on Microscopical Investigation of Malignant Tumors.

Dr. E. H. Davis, of New York, on the Statistics of Calculous Diseases, and the operations therefor.

Dr. J. S. Carpenter, on the Treatment and Curability of Reducable Hernia.

Dr. N. J. Fuller, of Maine, on the best Treatment of Cholera Infantum.

Dr. Wm. B. Page, of Philadelphia, on Injuries of the Joints.

Dr. Wilson Jewell, of Philadelphia, on the Statistics of Mortality in the United States.

Dr. J. Knight, of New Haven, Connecticut, on Endemic Tetanus.

Dr. P. H. Cabell, of Alabama, on the Native Substitutes for Cinchona, indigenous to the Southern States.

Dr. James M. Newman, of Buffalo, New York, on the Sanatory Police of Cities.

Dr. S. W. Noble, of Le Roy, Illinois, on Puerperal Fever and its Communicability.

Dr. J. M. Freer, of Chicago, Illinois, on the Progress of General and Descriptive Anatomy.

Dr. J. W. Corson, of New York, on the Causes of the Impulse of the Heart, and the agencies which influence it in Health and Disease.

Dr. D. Meredith Reese, of New York, on the Causes of Infant Mortality in large cities, the source of its increase, and the means for its diminution.

Dr. Mark Stevenson, of New York, on the Treatment best adapted to each variety of cataract, with the method of operation, place of election, time, age, &c.

Dr. Thomas Miller, of Washington, District of Columbia, on Toxicology.

Dr. E. R. Peaslee, of Hanover, New Hampshire, on Inflammation, its Pathology, and its relation to reparative process.

Dr. D. D. Thomson, of Louisville, Kentucky, on the Remedial Effects of Chloroform.

Dr. Wm. Clendennin, of Cincinnati, on Epidemic Erysipelas.

Dr. C. D. Comegys, of Cincinnati, Ohio, on the State of the Urine in Tubercular Diseases.

Dr. J. B. Coleman, of New Jersey, on the Effect of Mercury on the Living Animal Tissues.

Dr. T. G. Richardson, of Louisville, Kentucky, on the Diversity of the Venereal Poison.

Dr. J. B. Flint, of Louisville, Kentucky, on the best mode of rendering the Medical patronage of the national government tributary to the honor and improvement of the profession.

Dr. J. C. Hutchison, of Brooklyn, New York, on the Anatomy and Histology of the Cervix Uteri.

Dr. M. M. Latta, of Goshen, Indiana, on whether there are any means by which the Growth of the Fœtus in Utero may be controlled without injury to the Mother.

Committee to procure Memorials of the Eminent and worthy Dead—Dr. P. A. Jewett, of Connecticut; Dr. Thomas F. Betton, of Pennsylvania; Dr. C. J.

Blackburn, of Kentucky; Dr. Wm. M. Boling, of Alabama; Zina Pitcher, of Michigan.

Committee on Plans of Organization of State and County Societies.—Dr. A. B. Palmer, of Michigan; Dr. N. B. Ives, of Connecticut; Dr. E. B. Haskins, of Tennessee; Dr. Charles Woodward, of Ohio; Dr. Josiah Crosby, of New Hampshire.

Standing Committees.—*Committee on Arrangements.*—Dr. Zina Pitcher, of Detroit; Dr. Moses Gunn, do.; Dr. G. B. Russell, do.; Dr. A. S. Leland, Dr. Morse Stewart, Dr. Peter Klein, Dr. J. A. Brown.

Committee on Prize Essays.—Dr. A. B. Palmer, of Michigan; Dr. Samuel Denton, Dr. A. R. Terry, Dr. Adam Sager, Dr. S. H. Douglass, Dr. Corodon La Ford, Dr. E. Andrews.

Committee on Medical Literature.—Dr. P. C. Gaillard, of South Carolina; Dr. N. P. Monroe, of Maine; Dr. James Couper, of Delaware; Dr. R. Hills, of Ohio; Dr. A. Coffin, of South Carolina.

Committee on Medical Education.—Dr. J. Berrien Lindsley, of Tennessee; Dr. J. B. Flint, of Kentucky; Dr. P. H. Cabell, of Alabama; Dr. George Hayward, of Massachusetts; Dr. E. B. Smith, of Missouri.

On motion, the report of the Committee was adopted.

The subject of the report of the Committee on Medical Education was taken up, and after considerable discussion Dr. Lindsley, the chairman of the newly-appointed committee on the subject, asked leave to resign, and that Dr. Anderson, of Alabama, chairman of the former committee, be appointed in his place.

Whereupon Dr. Lindsley's resignation was accepted, and Dr. Anderson appointed in his place.

A letter from Dr. W. Hooker, Chairman of the Committee on the Epidemics of New England and New York, was read, in which he points out the defects of the present organization of the Committee on Epidemics, and asks to be discharged from the further consideration of the subject.

On motion of Dr. Hays, the letter was referred to the Committee on Nominations.

Dr. F. H. Hamilton, of New York, asked and obtained leave to make some remarks on fracture of the clavicle, supplementary to his report made yesterday.

The special order of the day, the resolutions in reference to the appointment of Committees on Medical Topography, offered by Dr. Thompson, of Delaware, was taken up.

After some remarks by Dr. Thompson, advocating their adoption, Dr. Askew, of Delaware, offered the following additional resolution, which was accepted by Dr. Thompson:—

Resolved, That all reports on the Medical Topography and prevailing diseases of States, shall, to entitle them to be received by this Association and published in the proceedings, be first approved by the Medical Societies of the State or Territory where such Societies exist, and to which State or Territory such report refers.

The preamble and resolutions presented yesterday by Dr. Thompson, were then adopted.

Dr. J. G. Orton, of Binghamton, New York, read a series of resolutions which he had prepared in reference to the same subject. They were as follows:—

Resolved, That each County Medical Society (or in parts of the country where such societies have not been established, any duly organized medical associ-

ation), be invited to amend their constitutions by attaching thereto the following article: "It shall be the duty of each member of this Society to keep a faithful record of the diseases which may fall under his observation during each month, according to the classification adopted by this Convention in May, 1847, stating the age and sex, occupation, and nativity of the patients, the average duration of the disease, and, finally, their recovery or death, and to report the same in writing to the Secretary on or before the first day of February of each year, who shall transmit a digest thereof to the State Medical Society, and also to the appropriate committee appointed by the American Medical Association for its reception."

Resolved, That each incorporated Hospital, Infirmary, and Asylum, be invited to furnish a copy of their annual reports, for the use of the committee of their respective States.

Resolved, That the State Committee appointed by this Association to report upon the prevailing diseases of their respective localities, shall receive and arrange a digest of the reports transmitted to them by the Secretaries of the various county societies, and report the same at the annual meeting of this Association.

Resolved, That the first day of January be the time fixed at which the object of these resolutions shall be carried into effect, and that the several county societies and associations be requested to amend their constitutions as heretofore recommended, at as early a date as practicable, and to report to the State Committee their willingness or unwillingness to acquiesce in the request of this Association.

On motion, the above resolutions were referred to the Committee on Nominations.

The reports of Committees were again proceeded with.

The President stated that Dr. D. J. Cain, appointed to report on the epidemics of South Carolina, Florida, Georgia, and Alabama, was confined at home by sickness.

The Committee on the epidemics of Tennessee and Kentucky, not being ready to report, was continued.

A letter was read from Dr. Fenner, appointed to report on the epidemics of Louisiana, Mississippi, Arkansas, and Texas, stating that his report was in progress.

On motion, the committee was continued.

Dr. D. Francis Condie, to whom was referred the subject of tubercular disease, stated that he had been engaged for a period of three years in examining and arranging a report on this subject. The report will occupy at least five hundred pages, and one reason which has caused it to swell to so great an extent, is, that he found it necessary to contradict a large number of statements on the subject. He hoped that the Association would excuse him in not being quite ready with the report. He had prepared a digest of its contents, which in fact is merely an index to the whole, and would not of itself repay for the time used in reading it. He expressed a desire that the Association would excuse him.

A motion was made that Dr. Condie be permitted to adopt such course as may be most agreeable to himself in regard to the publication of his report, free from any obligation he may consider himself under to the Association. The motion was agreed to.

The Committee on the Constitutional and Local Treatment of Carcinoma, Dr. Daniel Brainard, of Chicago, Illinois, not being ready to report, was continued.

The Committee on the Applications of Nitrate of Silver to the Throat, Dr. Horace Green, of New York, chairman, stated that a longer time was required in order to collect the materials necessary for a report. On motion, the committee was continued.

The Committee on Dysentery, Dr. Henry Taylor, of Mt. Clemens, Michigan, chairman, presented, through Dr. Beech, an abstract of the report which was read, and, on motion, the report was referred to the Committee on Publication.

The Committee on Hydrophobia and the Connection of the Season of the Year with its Prevalence, Dr. T. W. Blatchford, of New York, chairman, presented a partial report which was read, and, on motion of Dr. Smith, of New York, the committee was continued.

Committee to inquire into the Causes which obstruct the formation and establishment of our National Medical Literature, Dr. S. D. Gross, of Kentucky, Chairman.

A letter was read from the Committee stating the reasons for the report not being ready, and, on motion, the Committee was continued.

Committee to report the best means of preventing the introduction of Disease by Emigrants into our country, Dr. S. H. Dickson, of South Carolina, Chairman, were called upon, when a letter, written soon after the adjournment of the last meeting of the Association, declining the appointment, was read.

The hour for recess having arrived, adjourned.

The Association reassembled at 1 P. M., the President, Dr. Wood, in the Chair, and the regular order of business, the calling for reports from Committees, was proceeded with.

Dr. R. D. Mussey, of Ohio, the Committee to examine into, and report upon, the effects of Alcoholic Liquors upon the system in health and disease, read his report, which was, on motion, referred to the Committee of Publication.

Dr. E. S. Cooper, of Peoria, Illinois, on Orthopædic Surgery. No report.

Dr. Andrew F. Jeter, of Palmyra, Missouri, on the Modus Operandi of the Envenomed Secretions of Healthy Animals. No report.

Dr. Samuel M. Smith, of Columbus, Ohio, on Insanity.

By request of Dr. Smith, this Committee was continued.

Dr. R. La Roche, of Philadelphia, Pennsylvania, on the Jaundice of Yellow Fever, in its Diagnostical and Prognostical Relations.

This Committee was not ready to report, and was continued.

Dr. Charles Quarles Chandler, of Rocheport, Missouri, on Malignant Periodic Fevers. No report.

Dr. S. B. Chase, of Portland, Maine, on Typhoid Fever in Maine, No report.

An motion of Dr. Thomas, of Maryland, the resolution referring the report on Medical Literature to the Committee on Publication was reconsidered, when, on motion of Dr. Gibson, of Virginia, the further consideration of this subject was postponed until to-morrow.

On motion of Dr. Jewett, of Connecticut, it was

Resolved, That a Committee of one from each State be appointed to report upon a uniform system of marriages, births, and deaths; and the resolution

was referred to the Committee on Nominations, to report the names of the Committee.

The Association then adjourned.

On Friday, May 4, the Association met at 9 A. M., the President, Dr. Wood, of Philadelphia, in the chair,

The minutes of the last meeting were read and approved.

On motion of Dr. Lemoine, it was resolved that the nomination of a chairman of the Committee on the Epidemics of Missouri, be referred back to the Committee on Nominations.

Dr. Atlee offered a resolution that Dr. Breckenridge's report on Medical Literature be referred to a special Committee, to be read, and if approved by said Committee, then that it be referred to the Committee on Publication. The motion was lost.

A motion was then made and adopted, that the Committee on Medical Literature be continued, to report at the next meeting of the Association.

Dr. Hayward, of Boston, offered the following, which was adopted unanimously:—

Resolved, That the thanks of this Association be presented to his Honor the Mayor, and the other officers of the city government, and to the citizens and physicians of the city of Philadelphia, for their kind and continued attentions, and munificent hospitality to the members of this Association during its present session.

Dr. J. L. Atlee, of Pennsylvania, presented and read a report, on behalf of the Committee appointed at the last annual meeting of the Association, and to which was referred the Essay of Dr. Phelps, of New York, on "Religion as an Element in Medicine, or the Duties and Obligations of the Profession," and also the communication of Dr. R. S. Bailey, of South Carolina, on the same subject, with instructions to consider and report on the expediency of publishing the same. The report was accompanied with the following resolution:—

Resolved, That it is inexpedient to publish, in our *Transactions*, the Essay of Dr. Phelps.

The Committee state that, having expressed their sentiments on the subject, they beg to be discharged from the further consideration of Dr. Bailey's paper.

After a brief discussion, the previous question was demanded and sustained, and the report was accepted, the accompanying resolution adopted, and the request to be discharged granted.

Dr. Charles Hooker, of Connecticut, offered the following amendment to the Constitution, which, under the rules, lies over until the next annual meeting of the Association.

"Any permanent member who shall not pay for the published *Transactions* for three successive years, shall be considered as withdrawn.

Dr. N. S. Davis, of Chicago, Illinois, submitted the following preamble and resolutions:—

Whereas, The present mode of conducting the annual meetings of the Association affords but little opportunity for the discussion of strictly scientific questions and papers, and

Whereas, This has been regarded as a serious defect in the operation of our organization, impairing its scientific character; therefore,

Resolved, That the daily sessions of the Association during each annual meeting, be divided into two parts—the first to terminate at an hour not later than 12½ o'clock P. M., each day, and to be devoted, as heretofore, to the general business of the Association—the second, consisting of all the time which it is deemed advisable to remain in session each day, after 12½ o'clock P. M., to take the character of a scientific session, and to be devoted exclusively to the discussion of questions relating to the science and art of medicine.

Resolved, That the Association, in its capacity of a scientific session, having no power to act on any subject except of a scientific character, may continue in session, whenever thought advisable, a longer period than in its most general capacity.

Resolved, That the foregoing preamble and resolutions be referred to the Committee on Arrangements with instructions to report on the same at the commencement of the next annual session.

Dr. C. G. Comegys, of Ohio, offered the following preamble and resolutions, which were, on motion, referred to the Committee on Nominations:—

Whereas, The American Medical Association, though devoting itself ardently to the interest of medical science, is unable to accomplish all its aims for the promotion of the usefulness of the profession in society without the aid of legislation, therefore

Resolved, That the members of the medical profession throughout the Union be urgently requested to take immediate and concerted action for petitioning their several legislative bodies to establish offices for the collection of vital statistics.

Resolved, That for the purpose of securing an ample number of petitioners for this object, this Association suggests that every member of the profession shall endeavor to secure the name of his personal friends.

Resolved, That a copy of the above resolutions be transmitted at once to the several State societies.

Dr. A. J. Semmes, of Washington, D. C., offered the following, which was adopted:—

Resolved, That a Committee of three be appointed to report to the Association at its next annual meeting what measures should be adopted to remedy the evils existing in the present methods of holding coroners' inquests, by incompetent persons, by which the lives and liberties of the innocent may be jeopardied, and the ends of justice frustrated.

The President appointed Dr. A. J. Semmes, of Washington; Grafton Tyler, of D. C.; and Dr. D. F. Condie, of Pennsylvania, that Committee.

Dr. F. C. Stewart, of New York city, offered the following resolutions, which were unanimously adopted:—

Resolved, That the thanks of the American Medical Association be, and they are hereby tendered, to the Committee of Arrangements for the liberal and cordial reception extended to its members during the present session.

Resolved, That a similar acknowledgment is eminently due, and also unanimously extended, to the officers, trustees, and managers of the several public and private institutions of the city and vicinity, which have been thrown open to the inspection of the members of the Association, the visitation of which has been a source of unmingled satisfaction, and the management of which manifests the faithful and zealous care of those to whose guardianship they have been intrusted.

Dr. Biddle, Chairman of the Committee on Nominations, to whom was referred the resolution of Dr. Jewett, "that a Committee of one from each State be appointed by this Association to report upon a uniform system of Registration of Marriages, Births, and Deaths,"

made a report, recommending the adoption of the resolution, and presenting the following list of names to constitute said Committee:—

Dr. M. W. Wilson, of Hartford, Connecticut, *Chairman;* Dr. G. S. Palmer, of Gardiner, Maine; Dr. Silas Cumming, Fitz-William, New Hampshire; Dr. G. T. Elliott, Woodstock, Vermont; Dr. Edward Jarvis, Dorchester, Massachusetts; Dr. Joseph Mauran, Providence, Rhode Island; Dr. Jno H. Griscom, New York, New York; Dr. Henry Carpenter, Lancaster, Pennsylvania; Dr. O. H. Taylor, Camden, New Jersey; Dr. Lewis P. Bush, Wilmington, Delaware; Dr. A. Snowden Piggott, Baltimore, Maryland; Dr. David H. Tucker, Richmond, Virginia; Dr. N. J. Pittman, of Tarboro, North Carolina; Dr. Harvey Lindsley, Washington, District of Columbia; Dr. Jno. L. Dawson, Charleston, South Carolina; Dr. R. D. Arnold, Savannah, Georgia; Dr. A. Lopez, Mobile, Alabama; Dr. James Jones, New Orleans, Louisiana; Dr. R. C. Foster, Nashville, Tennessee; Dr. C. J. Blackburn, Covington, Kentucky; Dr. Jno. Dowson, Columbus, Ohio; Dr. Edmund Murphy, New Harmony, Indiana; Dr. N. D. Stebbins, Detroit, Michigan; Dr. J. V. Z. Blaney, Chicago, Illinois; Dr. Geo. D. Wilbur, Mineral Point, Wisconsin; Dr. Wm. McPheeters, St. Louis, Missouri; Dr. J. D. Elbert, Keosaqua, Iowa; Dr. Jno. H. Murphy, Falls of St. Anthony, Minnesota.

Mississippi and Arkansas were left blank.

The Committee recommended the addition of the following Special Committee:—

Dr. M. M. Latta, of Goshen, Indiana, on "Whether there are any Means by which the Growth of the Fœtus in Utero may be controlled without Injury to Mother or Child."

Dr. Thomas Miller, of Washington, District of Columbia, on Toxicology.

Dr. E. R. Peaslee, of Hanover, New Hampshire, on Inflammation—its Pathology, and its Relation to the Reparative Process.

Dr. D. D. Thomson, of Louisville, Kentucky, on the Remedial Effects of Chloroform.

Dr. Wm. Clendennin, of Cincinnati, Ohio, on Epidemic Erysipelas.

Dr. C. G. Comegys, of Cincinnati, Ohio, on the State of the Urine in Tubercular Disease.

The report of the Committee was adopted.

Dr. J. L. Atlee, of Pennsylvania, offered the following resolutions, which were adopted:—

Resolved, That to secure efficient teaching in medical schools, where the prime object is to enforce practical precepts, a large degree of union and harmony must exist among the teachers, and confidence be reposed in them by their pupils.

Resolved, That any such unnatural union as the mingling of an exclusive system, such as homœopathy, with scientific medicine in a school, setting aside all questions of its untruthfulness, cannot fail by the destruction of union and confidence and the production of confusion and disorder, unsettling and distracting the mind of the learners, to so far impair the usefulness of teaching as to render every school adopting such a policy unworthy the support of the profession.

Dr. A. B. Palmer, of the University of Michigan, seconded the resolutions.

Dr. Foster, of Tennessee, offered the following resolution, which, on motion, was laid on the table:—

Resolved, That the State Medical Societies be requested to hold their annual meetings just one month before the meeting of the American Medical Association.

Dr. Clendennin, of Cincinnati, Ohio, offered the following:—

Resolved, That no State or local society shall hereafter be entitled to representation in this Association that has not adopted its code of ethics.

Resolved, That no State or local society that has intentionally violated or disregarded any article or clause in the code of ethics, shall longer be entitled to representation in this body.

Dr. L. A. Smith offered a resolution to lay these resolutions on the table, which, after discussion, was lost.

Dr. Miltenberger, of Maryland, offered as an amendment the following preamble and resolutions, to be appended to the resolutions of Dr. Clendennin:—

Whereas, It has been brought to the notice of the American Medical Association that the State Medical Society of Ohio violated at their last meeting one of the articles of its code of ethics. Therefore

Resolved, That the Secretary of this Association be directed to inform the officers of that society, that unless such action be rescinded, they cannot hereafter be represented in this Association.

Dr. J. L. Atlee, of Pennsylvania, offered as amendment to the foregoing preamble the addition thereto of the particular obnoxious action alluded to. The amendment was accepted by Dr. Miltenberger, and the resolutions of Dr. Clendennin, with the preamble and resolutions of Miltenberger, as amended by Dr. Atlee, were adopted. The resolutions as adopted are as follows:—

Resolved, That no State or local society shall be hereafter entitled to a representation in this Association, which has not adopted the code of ethics.

Resolved, That no State or local society which has violated or discarded any article or clause in the code of ethics, shall longer be entitled to a representation in this body.

Whereas, It has been brought to the notice of the American Medical Association that the State Medical Society of Ohio violated, at their last annual meeting, one of the articles of its code of ethics by adopting a resolution, 'That it is not derogatory to medical dignity or inconsistent with medical honor for medical gentlemen to take out a patent-right for surgical or medical instruments.' Therefore,

Resolved, That the Secretary of this Association be directed to inform the officers of the Medical Society of Ohio, that unless such action be rescinded, they cannot hereafter be represented in this Association.

Dr. A. Stille, of Pennsylvania, offered the following resolutions, which were adopted:—

Resolved, That a special committee of five be appointed to report at the next meeting of the Association upon the following question:—

Might not the present system of repeating the same lectures to the same classes during two successive terms be usefully modified by extending the lectures of each chair over two sessions, so as to embrace systematic and complete discussion of each of the following subjects?:—

1. Special, Regional, and General Anatomy, including illustrative references to Morbid Anatomy.
2. Inorganic, Organic, and Pharmaceutical Chemistry and Toxicology.
3. General and Human Physiology, Hygiene, Medical Jurisprudence.
4. Medical Botany, Materia Medica, Therapeutics.
5. General Pathology, Morbid Anatomy (systematic), Practice of Medicine.
6. General Surgical Pathology, or Institutes of Surgery, Mechanical Operative, and Medicinal Surgery.
7. Obstetrics, Diseases of Women, Diseases of Children.
8. Hospital Clinical Medicine and Surgery.

Resolved, That the committee, at an early day, address the several medical colleges in regard to the proposed plan of instruction, requesting from them an official expression of opinion upon its merits and feasibility.

On motion of Dr. Pitcher, it was

Resolved, That the committee under the above resolutions be appointed by the President, and that he be allowed to do this after the final adjournment of the Association.

The President has appointed the following committee under the preceding resolutions:—

Dr. Alfred Stille, of Philadelphia, chairman; Professor Samuel Jackson, of Philadelphia; Dr. John Bell, of Philadelphia; Dr. John Watson, of New York; and Dr. A. L. Cabell, of Charlottesville, Virginia.

Dr. Levi D. Scheets, of Ohio, offered the following alteration to the Constitution, which, under rule, lies over until the next meeting:—

Whereas, It has been found necessary to devise some means of elevating the standard of education, both professional and general, among medical men, by those who are best acquainted with the sad and lamentable deficiency which prevails in this respect among a large mass of the profession, and particularly in the Western States. And,

Whereas, Efforts to this effect at home have been opposed on the ground that more was exacted by such as took an active part in the matter than is required by the "American Medical Association." And,

Whereas, It is believed that the National Society can exert a beneficial influence over the whole country. Therefore,

Resolved, That the Constitution of the Association be so amended as to require all delegates, before being allowed a seat in said Association, to satisfy the proper authorities that the societies which they represent, require *graduation* as the *sine quâ non* to membership therein, and that no person can become a permanent member, a member by invitation, or can be received as a delegate from any other body, unless he be a graduate of some respectable medical school.

Resolved, That the editors of the various medical journals of the United States be requested to publish the foregoing, so that an interest may be awakened upon this subject, and that societies may be prepared to comply with the above requisitions in case they meet the approval of this Association.

Dr. Corson, of New York, asked and obtained leave to read a brief abstract of a paper "On the influence of Lead upon the Heart's Action, and the Importance of the Study of the Cardiac Impulse in Disease generally, founded upon a Series of Observations."

On motion, it was referred to a special committee of three with instructions, if they approve of it, to transmit it to the Committee of Publication for insertion in the *Transactions*.

Drs. Charles D. Davis, Isaac Wood, and F. Campbell Stewart, of New York, were appointed the committee.

Dr. Thomas, of Baltimore, read a paper on a simple and easy method of applying nitrate of silver to the air-passages, contrived and employed by the author's brother, Dr. John Chew Thomas, about six years since. It consists in applying a stick of caustic lightly to a fine grindstone or emery wheel made to revolve with great velocity. The caustic is thus thrown off in an impalpable powder which may be inhaled by the patient sitting before the stone.

On motion of Dr. Emerson, the paper was referred to a committee of three with instructions, if they deem it worthy of insertion in the *Transactions*, to transmit it to the Committee on Publication.

Drs. Emerson, of Philadelphia, Miltenberger, of Maryland, and R. P. Thomas, of Philadelphia, were appointed that committee.

Dr. Atlee offered the following resolution, which was adopted:—

Resolved, That the subject of the contagiousness or non-contagiousness of cholera be especially recommended to the attention of the State Committee on Epidemics, State Topography, etc.

On motion of Dr. Hintzé, of Maryland, it was

Resolved, That the thanks of the Association be presented to the several railroad and steamboat companies which have courteously issued commutation tickets to the members of the Association for the present meeting.

The proposition offered at the last annual meeting by Dr. S. D. Gross, of Kentucky, to amend that part of the Constitution which relates to the election of officers, so that the election shall take place immediately before the adjournment of each meeting, instead of immediately after its commencement, was called up, and, on motion, indefinitely postponed.

The proposition offered at the last annual meeting by Dr. F. A. Ramsay, of Tennessee, that the Constitution be so amended as to dispense with the Nominating Committee, and the duties of such committee, was, on motion, rejected.

Dr. N. B. Ives, of Connecticut, proposed the following amendment to the Constitution, to be appended to the end of the second article:—

"The Association shall, at all times, have power to punish any of its members by reprimands, suspension, or expulsion, upon a three-fourths vote of the members present at any meeting, at which not less than one hundred are in attendance."

Dr. Dorset, of Virginia, offered the following amendments to the Constitution:—

Resolved, That with a view of adding dignity and influence to our body, and conveying a more adequate idea of its national representative character, the title "National Medical Congress" be substituted for that of "American Medical Association," and that we hold our sessions at least once in three years in Washington, D. C.

Dr. A. M. Pollock offered the following resolution:—

Resolved, That no organization or institution, entitled to representation in this Association, shall be considered in good standing which has not adopted its code of ethics.

Dr. Lemoine, of Missouri, called up the amendment to the Constitution offered last year by Dr. Byford, to change the name of the "Committees on Epidemics" to "Committees on Prevailing Diseases."

On motion, the proposed amendment was rejected.

There being no further business, the Association then, on motion, adjourned *sine die*.—*Condensed from Med. News.*

COMMUNICATIONS.

Atmospheric and Mortuary Observations in New York, comprising the first half year of 1855. By J. P. Loines, M.D., of New York.* It is presumed that the patient comparison of the different columns in the accompanying table will enable any physician to draw instructive conclusions. The necessary explanations of the different headings, &c., will be given, and incidentally a few apparently obvious deductions will be exhibited. The weeks end with Friday, about 24

* From papers read before the Society of *Statistical Medicine* from January to June, 1855.

Weeks.	1855. 7th Ward, New York. Remarks.	WEATHER MEAN OUT-DOOR. Temperature.	Evaporation below.	Dew-point below.	Daily range.	Inches Rain and melted Snow.	N. W. & S. W. winds.	E. & N. E. winds.	S. & S. E. winds.	Mostly clear.	Mostly cloudy.	Grains of Vapor in a cubic foot of air.	Additional weight required to saturate.	Mean humidity, saturation being 100.	In-door at 70°. Mean humidity, healthiest weather in the year being 100.	Mean Barometer.	AGGREGATE MORTALITY AND BURIALS. Total No. Deaths.	Classification. Brain & Nerves.	Lungs & Throat.	Digest. System.	Eruptive Fevers	Other Fevers.	Adults.	Children.	Under two years.	American.	Irish, &c.	German, &c.	Ward's Island Hosp.	Other Charities.	Catholic Cemeter's.	Paupers' Cemeter's.
1	Damp, for winter	35°	1½°	3½°	7½°	0	2	5	0	2½	4½	2·30	·50	80	46	30·40	479	113	131	75	27	16	212	267	197	276	111	50	26	37	173	95
2	" " "	37¼	2	4½	7	¼	3½	3½		2½	4½	2·37	·63	79	47	30·40	413	90	120	72	26	19	148	265	179	266	75	55	55	23	144	93
3	Drier	32	2¾	6½	8	0	4	2		3	4	1·99	·56	77	40	30·00	467	82	150	67	39	14	171	296	214	300	99	51	69	36	172	116
4	"	30	3	7	11¼		3	3		3	4	1·89	·47	75	37	29·69	437	102	144	61	46	13	165	272	198	308	75	39	50	24	157	82
5	"	27	4½	10½	9	1¼	3½	3½		3½	3½	1·46	·70	72	29	30·00	511	108	160	79	49	24	182	329	230	348	78	64	69	41	179	134
6	Driest	15	5	11½	11	2	2	5		1½	5½	·961	·49	66	19	34·00	485	95	164	66	39	22	159	326	233	335	78	54	65	25	163	163
7	Dry	26	3½	8	7½	3	4	3		3½	3½	1·54	·55	73	31	30·21	550	108	177	98	35	29	203	347	245	357	109	65	84	36	194	176
8	Drier	29	6	14	11	¼	6½	½		5½	1½	1·40	·80	61	28	30·18	521	101	185	89	31	27	198	323	239	362	79	57	51	42	169	117
9	Very dry	21½	6¾	16	15	0	7	0		6½		1·00	·70	59	20	30·21	532	115	191	67	43	34	229	303	215	342	99	78	57	43	166	119
10	Damp, for winter	39	5½	13	14	0	6½			5	2	2·04	1·11	64	41	30·00	491	113	131	75	30	44	189	302	222	336	77	54	42	32	169	104
11	Damper	34	3	7	10	1·7	5	1		2½	4½	2·13	·58	78	42	29·93	515	102	169	68	30	44	190	325	228	336	104	47	46	40	188	125
12	Drier	35½	5	11½	11	0	5	1	0	5½	1½	1·91	1·02	63	39	30·00	456	95	158	66	30	29	177	279	185	330	64	41	37	23	169	117
13	"	35	6	14	18	0	6			6	1	1·71	1·09	61	38	29·82	493	88	156	74	42	30	300	293	212	324	83	58	49	17	171	100
14	Damper	42	7	10½	20	1	5	1		5	2	2·00	1·49	57	44	29·98	441	115	128	53	26	16	147	294	215	317	68	42	29	25	154	85
15	"	50	5	11½	16	¼	3½	2	1½	3½	3½	3·06	1·17	74	60	30·15	479	111	145	62	35	22	174	305	196	329	84	49	47	26	167	90
16	"	52	4	9½	15	¾	4½	2½	0	3	4	3·09	1·94	80	61	29·91	479	73	152	73	59	20	174	305	191	331	88	46	35	40	168	92
17	"	53	6	14	10	1-25	3½	0	3½	4	3	3·16	1·94	61	63	30·00	399	87	131	50	45	20	149	250	166	280	50	31	23	34	147	65
18	Drier	52½	6	14	8	1-20	3	1	3	4	3	3·03	1·80	61	61	29·98	438	85	135	79	37	19	177	261	197	320	81	38	37	50	154	75
19	"	55½	7	16½	18	1½	4¾	2	¼	4½	2½	3·05	2·29	56	61	29·99	431	84	133	80	44	23	155	276	175	311	70	40	18	38	128	73
20	Sultry	67	11	25½	21		6			5	2	3·23	4·03	47	64	30·15	457	92	155	78	49	14	190	267	191	316	90	28	18	40	173	91
21	Damper	65	8	18½	16	2¼	4	1	2	3½	3½	3·92	3·51	51	78	29·90	394	91	99	61	41	24	136	258	165	281	80	26	12	37	160	51
22	Drier	65	11½	26	15	0	5	0	2	5½	1½	2·99	4·24	41	60	30·18	399	77	114	81	29	20	147	252	180	291	70	27	22	28	145	65
23	Model Week. Healthiest weather in the year	64	5½	13	8	2½	3	0	4	3	4	4·56	2·48	65	92	30·08	356	71	99	61	30	27	175	231	142	260	54	30	17	31	119	73
24	Fine	66	8	18½	14	½	6		1	5½	1½	4·04	3.38	54	81	29·98	353	77	99	52	35	9	107	246	160	260	57	31	22	18	111	58
25	Very damp	66½	6	14	13	½	1	1½	4½	2½	4½	4·80	3·	63	96	29·84	322	69	70	50	41	13	99	223	153	231	62	20	15	21	128	61

hours before the termination of the official weeks of the City Inspector. This has enabled us to make some valuable comparisons of the weather and consequent mortality; since, in the weeks having extreme dryness or moisture, or low or high temperatures prevailing, the influence is often so direct in this city, that the mortality for the week instant is immediately increased, while on the contrary, we find temperate Spring and Autumn weather influencing chiefly the mortality in the few succeeding weeks. These conclusions are clearly shown in the table. For example, compare the different columns of the cold 6th and 7th weeks with each other, and also in the same manner those of the mild 20, 21, 22, 23 and 24th weeks. The 2nd column was collated with the 13th and 16th, to show a relatively dry or damp day as affecting the health of those breathing our atmosphere both in and out of doors. The 3rd column shows, as nearly as possible, the true mean temperature as derived from five daily observations of the maximum and minimum thermometers. This is thought to be a better method of obtaining the true mean, than that from *one* daily observation of the extremes, which only serves to give us the true mean of the temperate seasons and equinoctial days of the year.

In the 8th, 9th and 10th columns, the winds, showing by their direction the same average weather, are classed together. In the 14th column, the additional weight of vapor required to saturate a cubic foot of air at the mean out-door temperature is given in grains. The 15th column shows the proportion per cent. of the 13th, to the sum of the 13th and 14th; or in other words, the ratio of the mean amount of vapor contained in a cubic foot of air, to the amount necessary for saturation at the mean temperature of that week, and is the expression generally used to indicate relative moisture; but it cannot throw much light upon the causation of disease at different seasons, for the reason that it relates merely to out-door temperature. The 16th column, believed to be a new feature in tables of this kind, will usually afford the information desired. To elucidate this, it is necessary, first, to give a description of what might be called model weather, viz., temperature 65° to 70°, dew-point 15° to 20° below; barometer, 30 in.; weight of vapor in cubic foot of air, 4½ to 5 grains; additional weight required to saturate, from 3 to 3½ grains; winds moderate, mostly westerly. A similar combination prevailed with the greater part of the weather for May and June, and during that time exercise in the open air, or in well-ventilated in-door apartments, or a sudden change from one to the other, would never cause disease; but, on the contrary, materially aid in its removal. On the other hand, let us cite the weather of the 6th week of 1855, which caused more disease than any other of this year.

For many hours of this week, the temperature was below 10°, and each cubic foot of out-door air only contained one half grain of vapor. This dry air was taken into our rooms, there heated to 70° or upwards, and thus its chemical affinity for moisture was increased more than 16 times —that is to say, the in-door air was 16 times drier than the out-door. This additional 8 grains of vapor the in-door air demanded, and preyed upon that contained in all the objects over which it circulated, our lungs and skin included, thereby causing disease *directly* to those who had vainly sought a tropical climate in heated and arid parlors, halls, or bed-rooms; and the alternate changes to those passing in and out of doors, of an eight-fold increase or decrease of temperature, and sixteen-fold dryness or moisture, were more than India-rubber skin, or mouth, nostrils, and throat, or any Ericsson wire gauze combination could well protect us against: whence congested mucous membranes, cracked and fissured skin, &c.

The 16th column may be made more useful by varying its heading thus: "the proportion per cent. of the natural moisture of the air to that of spring or summer in fine weather at 70°." A glance along the column will show by the highest numbers the healthiest weeks, and by the lowest, the most unhealthy. Thus 19 and 96 are the extremes.

The 28th column includes also the deaths of the natives of England, and the 29th those of the immigrants from Central Europe, in addition to Germany. A few words are necessary to show the reliable character of the returns of mortality. There is, probably, no other city or section of country in the world, containing a population of 800,000, where the returns of deaths are more carefully made. We are sure that all the deaths in the city at large, and in the institutions and islands connected, are reported punctually each week to Friday night, as also the date and locality of their interment. Thus, the reader may be assured that every item and figure is correct in the accompanying table, with the exception of those errors occasioned by careless or ignorant physicians, in reporting causes of deaths. That these form but a small portion, can be shown from the fact of the general consistency of our reports from any one disease found in monthly or yearly comparisons with tables elsewhere; besides which, about one fifth die in public institutions, treated by physicians whom we know are perfectly competent to report the causes of death.

Although the foregoing table, by its character and origination in a statistical association, mainly devoted to the systematic record of facts, mostly leaves the reader to form his own opinions upon it without a

bias, yet a few additional leading arguments and conclusions may not be thought supererogatory.

1st. In our finest spring and autumn weather, partially described as that which the model week should be, with the observance of proper hygienic rules, and in good constitutions, *no natural sporadic causes of disease exist*, and the *most favorable juvantiæ for the sick are afforded.* 2nd. The low temperature of much of our winter weather is a *direct cause of disease.* Although the surface of the body can be protected, *nothing* can long *guard the air passages or the general system*, against exposure to extreme cold, or sudden changes from high to low temperatures, or vice versa. 3rd. The extremely small quantity of water contained in the air, in low temperatures, cannot often supply the necessary amount to the system either in or out of doors; but on the contrary, in a dry cold air, the inevitable rapidity of the currents *carries off the moisture from the mucous surfaces, &c.*, much faster than in summer, since the relative affinity 'cæteris paribus' of a still atmosphere for vapor is about the same out doors in any season. The preceding paragraph alludes to the *same cause of disease* as was noticed on a former page in describing the extremes of out-door air below 10°, and the same heated to upwards of 70°, when the exceedingly difficult matter of a sufficient supply of artificial moisture is not attained. 4th. For the *prevention or removal of disease* in our abodes, we must supply the proper equable moisture as well as warmth, and ventilation of a fine out-door tropical climate; to the completion of which end there can be no doubt that art might nearly approximate. 5th. More moisture than 4 or 5 grains to a cubic foot, or a much higher temperature than 70° is *unfavorable to health.* This, of course, is not established by the table, but it will probably be demonstrated in the next one published of the kind.

In conclusion, it is only necessary to state that the electrical condition of the air has been mostly *positive;* but the facts observed in its connection allow no definite inferences upon the subject in question. It is hoped that these few remarks will elicit further discussion upon these topics.

Abstract of the Report of the Committee of the Academy of Medicine on Catheterization of the Air-Passages.—This committee was appointed to report upon a paper read before the Academy of Medicine, by Dr. Horace Green, "*On the Employment of Injections into the Bronchial Tubes, and into Tubercular Cavities of the Lungs.*" The committee consisted of Prof. Willard Parker, *Chairman*, Drs. Alex. H. Stevens, Isaac Wood, J. Anderson, J. T. Metcalfe, B.

F. Barker, and John O. Stone. The following is an abstract of the majority report.

The committee met on five different occasions. At these different meetings 38 patients, in the aggregate, were submitted by Dr. Green and others to the test of the operation of passing instruments into the air-passages, and three, of the injection of nitrate of silver into these passages.

I. *As to the Practicability of the Operation of passing Instruments into the Air-Passages.*

This division of the Report was considered under the following heads:—

1. *History of Catheterism of the Air-Passages.*—The introduction of tubes into the air-passage is not a recent operation. It was recommended by Hippocrates, and seems to have been long practiced in preference to bronchotomy. Desault, among modern writers, also recommended it strongly. Mr. Ryland, in his treatise on *Diseases of the Larynx*, devotes a short section to this operation. Other authors allude to it as a matter of history.

2. *Results of Experiments.*—The results of experiments confirm the records of history, as to the practicability of the operation of catheterizing the air-passages. In 11 cases it was performed to their entire satisfaction. The evidences on which they rely as proofs of its success are:—

1. *The detection of the tube in the cavity of the larynx by the finger passed into the mouth.*—This was done by several of the committee, and was demonstrative of the position of the tube in relation to the laryngeal openings.

2. *The symptoms manifested by the patient.*

The symptoms which distinguish the passage of an instrument into the trachea and œsophagus, may be thus contrasted:—

TRACHEA.	ŒSOPHAGUS.
1. Suffusion of the face, rapidly increasing to turgescence and lividity.	1. Suffusion of the face slight, rapidly subsiding with cessation of retching and vomiting.
2. Great anxiety and alarm; not easily pacified.	2. Little anxiety; easily pacified.
3. Eyes wild, staring, overflowing with tears.	3. Eyes natural; slight suffusion from tears,
4. Cough violent and spasmodic.	4. Little or no cough.
5. Respiration greatly disturbed; inspiration loud, hoarse, and croupy; expiration attended with violent cough, ejection of bronchial mucus through the tube, and finally full breathing, through the instrument.	5. Respiration little, if at all disturbed; occasional puffs of air through the tube.
6. Voice extinguished, a hoarse whisper, interpreted with difficulty.	6. Voice distinct; often quite natural.
7. Retching slight.	7. Retching and vomiting a common symptom.

So prominent and characteristic are the symptoms which the patient manifests on the successful introduction of the instrument into the air-passages, and so strikingly do they contrast with those wit-

nessed when it enters the œsophagus, that the committee came to regard the rational signs as the surest criterion of the success of the operation. In but a single instance did they fail of being exhibited with characteristic intensity. In this case the patient had suffered from a syphilitic ulceration of the air-passages, and to this circumstance, together with his enfeebled condition, was attributed the absence of the severe symptoms. Dyspnœa and lividity of the face were the only evidences of the success of the operation. They therefore establish it as a rule, to which ordinarily there is no exception, that the rational signs above tabulated will differentially distinguish the course which the instrument takes, whether into the laryngeal or œsophageal passages.

Other tests were employed, but none of them were found, on trial, free from objection.

The power of the patient to blow out a lighted candle, and to collapse and inflate, at will in respiration, a bladder attached to its free extremity through the tube, has been much relied upon as a proof that the tube had entered the trachea. But it was found that when the tube was purposely passed into the œsophagus, this power was still retained, though in a much less degree.

The passage of two sponge-armed probangs into the throat, and by the withdrawal of the lower one, calculating the position of the other, whether in the œsophagus or trachea, did not, as far as experimented with, yield satisfactory results. For it was not proved to the satisfaction of the committee that the sponge-probang entered the larynx and trachea.

The sensations of the patient are reliable only when the tube has been repeatedly passed both into the trachea and œsophagus. In these cases patients have very promptly and correctly decided which passage the instrument was entering. This fact was strikingly illustrated in Mary Norton, on whom the operation was repeatedly performed before she was brought before the committee. On the first and second trials of the introduction of the tube by Dr. Green, she shook her head, indicating that it had not entered the larynx. The operator, however, was satisfied on the last trial that the tube had penetrated the trachea, and that the sensations of the patient were not to be relied on, when she ejected a portion of the contents of the stomach through the tube, and thus demonstrated not only the position of the instrument, but equally the correctness of her sensation.

It appeared very evident also, in the course of these experiments, that the opinion of the operator, as to the course which the instrument takes, is unreliable, when he trusts to his own senses, and disregards symptoms. They witnessed in two cases the fallacy of Dr. Green's opinion, as to the success of his experiment, though based upon so large an experience. In both instances, while positive that he had successfully passed the instrument into the trachea, the patient vomited through the tube, and thus demonstrated his error.

II. *Facility of the Operation.*—While these experiments proved conclusively to the minds of the committee, the practicability of passing tubes into the air-passages, they also afforded opportunities of

witnessing the facility with which the operation is performed under different circumstances, and with different instruments. These were as follows :—

1. *Previous Preparation of the Patient.*—It is contended that the facility with which the instrument is introduced depends much upon the previous preparation of the patient, by frequent application of the nitrate of silver to the upper part of the larynx. To obviate this objection, the Committee met twice at Dr. Green's office to witness the experiment upon patients whom he was treating with local applications to these parts, and at the second visit at Bellevue Hospital, the patients were selected from a class which had been expressly prepared for the experiment, by the application of caustic to the throat from three to five times during the preceding week.

The results of these experiments, however, do not sustain the above assertion. The patients on whom Dr. Green had been operating for six months, more or less, were as intolerant of the actual passage of the tube into the trachea as those first submitted to trial. The case of Mary Norton was adduced. Although the tube in her case had been passed into the trachea half-a-dozen times previously to her coming before the Committee, still she exhibited in the most marked manner all the evidences characteristic of the introduction of a foreign body into the air-passages, when the tube was successfully passed.

2. *Instruments Employed.*—The facility with which catheterism of the air-passages is performed seems to depend in a great degree upon the instruments used. Those employed in these experiments were: 1. A tube, consisting of Hutching's catheter No. 10, with a wire stilet, and bent with a curvature corresponding to a circle of six inches in diameter. 2. A tube of the same size, slightly bent at its extremity. This was the instrument selected by Dr. Green, and is the one which he is accustomed to use in practice. 3. A sponge-armed probang, the sponge having a diameter of one half to three quarters of an inch. The result of the experiments with these several instruments was as follows :—

	No. of trials.	*Failed.*	*Succeeded.*	*Per cent. Failures.*
Tube with large curve,	19	8	11	about 28
Tube with small curve,	37	34	3	" 92
Sponge probang,	18	18	0	100

From these experiments it appears that the instrument best adapted to succeed in catheterism of the air-passages, is a tube having a large curve, or one shaped like a common catheter; while that least adapted to enter the trachea is the sponge-armed probang.

1. *The Tube with a Large Curve.*—This instrument was introduced into the trachea eleven times to the entire satisfaction of the Committee. The fact that the operators were successful eleven times in nineteen trials proves that this tube can be introduced with considerable certainty into the air-passage.

2. *The Tube with the Small Curve.*—This is the instrument selected by Dr. Green for catheterization of the air-passages, and is that which he uses in practice. In these experiments he was the only one

who employed it, and the result shows that even in the hands of the most skillful practitioner, it failed of entering the air-passages in about 92 per cent. of trials.

3. *The Sponge-Probang.*—This instrument afforded the least satisfactory results of any used. Notwithstanding the most persevering efforts with the whalebone slightly bent, as used by Dr. Green, and with patients who quietly submitted to the test of experiment, the results were entirely negative. In no instance did it satisfactorily enter the trachea. In two instances, with the whalebone curved like a common catheter, the sponge was thought to have entered the larynx; but with repeated efforts it could not be passed between and beyond the vocal chords. The suffocation was so great each time as to compel a withdrawal of the instrument.

III. *The Utility of Injections into Tubercular Cavities of the Lungs.*—This portion of the report was brief. As the Committee had no evidence that injections could be thrown into tubercular cavities of the lungs, they refused to discuss, on merely theoretical grounds, the question of their utility. One of the three cases injected with nitrate of silver died within twenty-four hours after the operation, not having recovered from its immediate effects. A letter was read from the physician who made the autopsy, describing the condition of the air-passages. The mucous membrane had the appearance of a recent application of the caustic.

Conclusions.—1. Catheterism of the air-passages dates its history from the time of Hippocrates.

2. The best evidences of the successful passage of an instrument into the air-passages, are the rational signs.

3. The facility of the operation depends upon the kind of instrument used—the tube having a large curve being best, and the sponge-probang least adapted to enter the trachea.

4. That there is no reliable evidence, in the opinion of the Committee, that the sponge-probang has been passed through and beyond the vocal chords.

5. That there is no sure evidence that an instrument can be passed *at will* into the right or left bronchial divisions.

6. That in the great majority of instances where injections are supposed to have been thrown into the lungs through a tube, they have passed directly into the stomach.

7. That as regards the utility of injections of nitrate of silver into the lungs, the facts thus far developed in the experiment of the Committee, lead them to regard the operation as one fraught with danger as well as difficult.

This report was signed by Prof. Parker, Chairman, Drs. Wood, Metcalf, and Stone; Dr. Anderson subscribed to all but that bearing upon the utility of injections; this he did not think sufficiently investigated; Dr. Stevens, who witnessed but a few experiments, made a short report. Prof. Barker made a lengthy minority report.

PRACTICAL MEDICINE.

Quinoidine in the Treatment of Intermittent Fever. By J. Da Costa, M.D., of Philadelphia.—"Quiniodine sufficiently pure for medicinal purposes, is prepared in this city by several eminent chemists, (especially, we believe, by Messrs. Powers & Weightman,) by precipitation, by means of alkalies, from the acidulous solution of the residue left after the crystallization of the sulphate of quinia. The precipitate thus formed is dissolved in alcohol, and from this solution, subsequently, the quinoidine is obtained. The amount of this alkaloid furnished by different barks varies. Thus, the red bark, which contains less quinia than the Calisaya, yields a larger amount of quinoidine. Mr. Weightman recently informed the writer that the ordinary Calisaya bark furnishes, in proportion to every 100 parts of quinia, only about 10 to 20 of quinoidine, while the New Grenada barks yield in proportion to the quinine they contain, about 40 per cent. of the quinoidine.

Quinoidine, when pure, is soluble in alcohol and sulphuric acid, from which it may again be precipitated without loss of weight. Its color is that of an ordinary extract; it is almost entirely devoid of taste. It has been occasionally medicinally employed, especially in some parts of Continental Europe, and enjoyed a high reputation as an antiperiodic in an epidemic that occurred near Berlin.

The patients for whom quinoidine was prescribed, were mostly Irish of the lower classes, who applied for advice to the Moyamensing House of Industry. In many, the intermittent fever had lasted for some length of time; it was mostly of the quotidian type. No cathartic was ordered previous to the administration of the medicine, which was given in pills of two grains each, or else dissolved in dilute aromatic sulphuric acid. The average dose required to arrest the chill in an adult seemed to be about 20 grains, six grains of which were, as a general rule, ordered shortly before the expected paroxysm, while the rest was taken during the intermission. If the bowels were constipated, a little of the extract of colycinth was with advantage joined to the quinoidine. After the chills were checked, the remedy was in some cases continued, in smaller doses; yet as patients, when relieved, are not always willing to return to a public institution, it was sometimes impossible to persevere with the treatment, and the disease then generally reappeared after the lapse of a week or two.

Of the 53 cases cited, in many of whom the disease was of long standing, the chills were arrested in 49 cases by the first administration of the medicine; only 4 required a repetition of the dose. In 10 cases the disease returned, which, although it may seem a large proportion of relapses, is not in reality so, when we consider the well known tendency of intermittent fever to return, and the fact that, in many of the cases, no medicine, for reasons above stated, was given after the first arrest of the chill. In conclusion, the writer can state as his honest belief, that quinoidine possesses antiperiodic qualities which, if not superior, are certainly not inferior to the sulphate of quinia or cinchonia, whilst he thinks it preferable to these, from the

absence of bitter taste, from its being less liable to affect the head or the stomach of the patient, and from its comparatively low price.*—*Med. Examiner.*

Fluid Extract of Scutellaria. By Joseph Bates, M.D.—"Lately I have used Tilden's fluid extract of scutellaria with signal success, in the treatment of diseases attended with nervous hesitation and irritability, restlessness, &c. In the treatment of children, it is invaluable for allaying these symptoms. The dose is a teaspoonful, repeated as often as the circumstances or indications require. It may be relied upon in some forms of hysteria. Patients convalescing from typhoid fevers, pneumonitis, arthritis, &c., or any disease with those symptoms, will be shortly relieved by one or two teaspoonsful of this preparation. I have no hesitation in saying that those who give it a fair trial will find it efficient in the treatment of many diseases for the relief of which small doses of opium are frequently given, without any of its unpleasant sequences."—*Boston Med. & Surg. Journal.*

Extractum Sumbul Fluidum (*Musk-root*). By Prof. William Procter, Jr.—Within a few months past several physicians of Philadelphia have prescribed a fluid extract of sumbul, (musk-root) which is stated by Mr. Simes to be of the strength of a grain to the minim. As musk-root is analogous in its therapeutic properties to valerian, the following recipe has been made to correspond in strength with the officinal fluid extract of valerian for this reason, as well as because its peculiar constitution seems to require more menstruum than the proportion stated by Mr. Simes.

Take of Musk-root,	four ounces (troy)
Ether,	four fluid ounces.

Alcohol and water, of each, q. s.

Bruise the musk-root, moistened with a little alcohol, until reduced to a coarse powder; mix the ether with twice its volume of alcohol, pour it on the musk-root, macerate in a covered vessel, for 24 hours, and introduce the mixture into a suitable percolator. The absorbed tincture (which has a light brown color) is displaced slowly by alcohol (sp. gr. 835) until twelve fluid ounces are obtained, when the process is continued with a mixture of alcohol and water (equal parts) until a pint has passed. Water is then poured on the residue until a pint of liquid has filtered. The ethereo-alcoholic tincture is suffered to evaporate in a warm place until reduced to two fluid ounces; the hydro-alcoholic tincture is concentrated on a water bath to the same bulk; and the watery infusion evaporated to one fluid ounce. The two last liquids are now mixed, three fluid ounces of pure alcohol added to the first (ethereal) liquid to dissolve the oleo-resin, and the other mixture added gradually with agitation, so that the whole shall measure eight fluid ounces, the mixture being afterwards shaken occasionally for 24 hours. A portion of oleo-resin and some gummy extractive remain undissolved, and must either be removed by filtration or left as a sediment

*About one seventh of the price of the sulphate of quinia.

When the ethereo-alcoholic tincture is evaporated to one sixth, nearly all the oleo-resin separates, and hence the necessity of redissolving this by alcohol before adding the other liquids.

The dose of this fluid extract is from 15 minims to a fluid drachm. The properties of the preparation are analogous to those of valerian, and are used in hysteria, dysmennorhœa, and other nervous disorders, and Dr. Wood informs us that it is highly valued in Moscow as a remedy in delirium tremens.—*American Journal of Pharmacy.*

SURGERY.

Gunshot-wound of the Neck.—Ligature of the Common Carotid Artery.—Recovery. By C. E. Isaacs, M.D., of New York.—"About the middle of last January I was requested to meet Professor Willard Parker, in consultation upon the case of a man who had been admitted into the Hospital on Blackwell's Island, with a severe *gun-shot wound.* On inquiring into the circumstances, we ascertained that, sixteen days previously, the patient had attempted to destroy himself by placing the muzzle of a pistol, loaded with a conical ball, near to the angle of the jaw, and then discharging it. The ball entered about an inch below the angle of the jaw, producing a moderately-sized external wound, but tearing the parts within extensively. The hemorrhage, which was profuse, was restrained at the time by compresses, bandage &c., &c., but continued to recur at intervals of two or three days, up to the period at which we were called in to see him. On removing the dressings, a small quantity of dark blood, mixed with semi-purulent matter, issued from the wound. From the appearance of the parts and that of the discharge, and in consideration of the great space of time which had elapsed since the occurrence of the injury, we hoped to control any future hemorrhage without the necessity of resorting to an operation; we therefore directed the compression to be kept up as before, and the patient to be carefully watched, &c., &c, However, on the next day the hemorrhage recurred in such a furious manner as to render it evident that some operation was now required to save the life of the patient, who was much enfeebled by the loss of blood.

"With the kind assistance of Dr. Parker, I then proceeded to ligature the carotid just below the point where it is crossed by the omo-hyoid muscle. I then dilated the wound by cutting outwards as far as the edge of the sterno-mastoid, upwards and inwards towards the lower border of the inferior maxillary bone, and downwards so as to reach the incision previously made for the carotid. Turning out the coagula rapidly with the finger, the hemorrhage became very profuse. Sponges were pressed into the wound, so as to arrest the bleeding, aided in some degree by firm pressure on the sides of the wound by the fingers of the assistants. The most accessible vessels were first secured; then, by gradually withdrawing one sponge after another, others were tied, and so on, till nearly the whole of the hemorrhage was arrested. The finger could now pass in the track of the ball, through the base of the tongue, so as to reach the region of

the arteries of the external carotid of the *opposite* side, which had been wounded by the ball, and were now pouring out blood, but in small quantity. As these were at such distance from the surface, and situated, as it were, at the apex of a deep conical cavity, they could not be fairly seen, or reached by a ligature. Compression was therefore relied on for the arrest of blood from this source. Careful and cautious research failed to detect the ball, which had not passed out of the body. The parts were now brought together by sutures; adhesive strips, &c., and moderate compression was made on the wound. The patient was carefully watched, but the bleeding did not recur. The wound healed rapidly, and without interruption, and at the end of a few weeks he was discharged from the Hospital, cured."—*New York Med. Times.*

Fracture of the Os Hyoides. By Prof. T. Wood, M.D.—Through the kindness of our friend, Dr. P. G. Fore, of this city, we were invited to examine a case of fracture of the *os hyoides*, that had occurred about one week before we saw it, in one of his patients. The patient was a female, about thirty years of age, who had fallen down the cellar steps, striking the prominent part of the larynx and hyoid against a projecting brick, severely injuring the larynx as well as fracturing the bone. The fracture was on the left side, and near the junction of the great *cornu* with the body of the bone. Crepitation was distinctly felt, on pressing the bone between the thumb and finger; or, when the patient would swallow; though, at this time, the severe symptoms that followed the accident, and continued several days, had somewhat subsided.

Immediately after the accident, there was profuse bleeding from the fauces, and she experienced great difficulty and pain in the act of swallowing, and the power of speech was almost entirely lost. On attempting to depress or protrude the tongue, she felt distressing symptoms of suffocation. Considerable inflammation and swelling of the throat and larynx ensued, and continued in some degree up to the time of our visit.

To-day (about four weeks since the accident), Dr. F. informs us, that the patient has so far recovered as to be able to converse, though the voice is somewhat impaired. She is yet unable to swallow solid food, and is wholly sustained by fluids.—*Western Lancet.*

Strangulated Femoral Hernia containing Ovary and Fallopian Tube.—The following are the principal facts of a case of femoral hernia related by Prof. Parker in the *N. Y. Med. Times.* Miss F., æt. 69, had for many years a reducible hernia on the right side. When called to see her she had been suffering three days; the tumor was hard, of the size of an English walnut, tender at its neck, and situated under Ponpart's ligament. The taxis having failed, chloroform was administered, and the operation commenced. The intestine was returned without much difficulty, but on removing a mass of dark, shreddy and vascular substance remaining, a ligature had to be applied;

which brought into view an ovary. The whole was therefore returned, the wound closed, and morphine freely given; the patient recovered. Another case is referred to in the *Gaz. Méd.* in which the cæsarian section was performed upon the uterus occupying a hernial sac. The patient was æt. 44, had seven children, had long suffered from inguinal hernia; at the sixth month of her eighth pregnancy it became strangulated, but was reduced. It soon returned, and she went her full term; labor began, the os dilated and the waters escaped by the vagina; the tumor was twenty-five inches in circumference and twenty-three in length. The sac and uterine wall were then laid open, and a well-formed living infant removed; patient died on the third day. Velpeau mentions a case in which the uterus at term occupied a femoral hernia, and was spontaneously delivered; in a case related by Frank the uterus protruded through the linea alba, and Flament cites a case complicating umbilical hernia.

Foreign Bodies in the Air Passages. By Prof. JOHN M. WATSON, M.D., of Nashville, Tennessee.—In the *Nashville Journal of Medicine and Surgery* we find the instructive particulars of eight cases of this accident. Three of the cases, with the general remarks which follow, we copy:—

A clever little boy, about 10 years old, the son of Mr. Paul Johns, of Rutherford Co., inhaled a large grain of corn into his windpipe, in the year 1848. I saw him the following day in consultation with several very intelligent physicians. We all concurred heartily in the propriety of tracheotomy. I opened the trachea; some hemorrhage and coughing followed, his face became livid, he gasped for breath, and appeared to be in great danger of suffocation. Some of the physicians cried out that he was dying from internal hemorrhage; fearing that the trachea was not well opened, I enlarged the primary incision, and the grain of corn was then seen protruding slowly through the wound, and was promptly detached. All the symptoms of suffocation subsided immediately, showing that hemorrhage had nothing to do with the urgency of the previous symptoms. The wound was dressed as in the other cases. The patient had no bad symptoms afterwards, and rapidly recovered.

This case occurred in the month of August, 1852, near Nolensville, Tennessee. The little patient, a son of Esq. Edmonson, was about 7 years old. He inhaled a watermelon seed into his windpipe. I saw him in consultation with Dr. James Scales, and we agreed upon the operation of tracheotomy for his relief. I opened the trachea; but little hemorrhage followed. Moderate coughing followed, and in the course of ten or fifteen minutes the seed was ejected through the opening. He recovered without any bad symptoms.

Case of Spontaneous Expulsion of a cockle-bur from the trachea of a little boy six or seven years old, the son of Mr. Cofield Seward, of Rutherford county. I was called to see the child, expecting to perform the operation of tracheotomy for the removal of the bur, but was agreeably disappointed by its spontaneous expulsion. The rough, prickly

covering of the bur was thoroughly macerated and rendered as soft and supple as a piece of cotton thread, by the fluids of the windpipe.

I think tracheotomy a safer operation for the removal of a foreign substance from the respiratory tube, than laryngotomy, although the former is more difficult to perform. The crico-thyroid membrane will not admit of an opening sufficiently large for the expulsion of a water-melon seed, grain of corn, or common bean, the articles most commonly drawn into the air passages. I do not think that tracheotomy, when properly performed, in a normal state of the vessels involved in the operation, should ever give rise to dangerous and alarming hemorrhage. Moreover, any of the vessels may be easily ligated, if necessary.

Sutures should never be employed in order to close the wound; nor should the wound be closed by adhesive strips; it is best in all cases to leave it open, and protect it against the inhalation of extraneous substances, either by a piece of gauze or an adhesive strip, applied for that purpose. More or less tumefaction and infiltration around the wound must of course ensue, which would compress the trachea in front, being greatly weakened at that point by the opening in it. The danger of infiltration of blood and serum between the respiratory tube and its investing tissues, would, by an early and perfect closure of the wound, be greatly augmented.

On Chloride of Zinc as a Caustic in Chancre. By James H. Conway, M.D., of Richmond, Va.—For several years I have been in the habit of using the chloride of zinc as a caustic to chancres, to the exclusion of all other agents of the kind; and although I do not claim originality in the use of a remedy so well known to the profession, yet its application was first suggested in the fall of 1852, by a case of most obstinate chancre, in which it proved so efficient a remedy that I determined to try its effects in cases which would probably yield to the caustic usually employed and highly extolled by Ricord—namely, the nitrate of silver.

In the case alluded to, the chancre was situated immediately behind and below the glans penis, nearly perforating the frænum, and so deep as to cause the apprehension that the urethra would be finally opened, and hypospadias established. After trying a variety of caustics, I finally determined to resort to the chloride of zinc, which was applied but once, and, in a few days, followed by complete cicatrization of the ulcer. Since then I do not think that I have used any other agent, except in two instances. In the first, I employed the nitrate of silver and afterwards the chloride of zinc, for the purpose of ascertaining the relative amount of pain produced by either, and the patient declared that the latter was the less painful. Certain it is, that the aggregate amount of pain is less from the chloride of zinc, as it is rarely necessary to apply it oftener than once, whereas the lunar caustic, however freely you may use it, generally requires repetition.

The manner in which I apply it, is by making a saturated solution, or, as it is exceedingly deliquescent, by exposing a small quantity to

the air it becomes dissolved, and then, by means of pieces of paper twisted to a point and filled with the solution, the chancre being carefully wiped dry, it is applied, and again wiped to prevent it spreading. The application is repeated, until a white eschar is formed, and then dressed with dry lint. If, however, I think it has been too freely used, I mop or swab the part with water, which readily dissolves the superfluous quantity applied.

I should scarcely think my experience in the use of this agent worthy of record, were I not fully convinced of its utility. Believing the first indication in the treatment of syphilis to be the destruction of the chancre, the source of the poison to the general system, I do most cordially recommend it as the best preventive of constitutional syphilis, even in many respects superior to the knife.—*Virginia Med. and Surg. Jour. for June: p.* 473.

Remarks on Fractures.—At the late Annual Meeting of the *American Medical Association*, as will be seen by reference to the Proceedings published in this number, Dr. HAMILTON submitted "*a Report on Deformities after Fractures*" pending which Prof. HAMILTON made the following remarks, which we copy from the *Buffalo Med. Journ.*—"Dr. Hamilton said he had a word to say which did not belong to the report. Prosecutions for mal-practice have become so frequent that surgeons were alarmed, and not a few were abandoning the profession or refusing altogether to undertake the treatment of grave surgical accidents, and especially of fractures. So frequent were these prosecutions that members were no longer surprised at such statements. If they had heard the speaker say that lawyers were abandoning their profession from this cause, they would have been startled, but to us the fact is familiar.

It is proper for us, then, to interrogate ourselves. Why is it that we are held to an accountability so much more strict than any other professional men, or than any other artisans? Is it because there are jealous and designing men in our own ranks, who instigate these suits? No doubt, such men may be found, but only as an exception. The fact is, that surgeons have sometimes been mulcted in damages simply because the jury believed, from the united character of the medical testimony, that it was a conspiracy, and the more conclusive the testimony, the more certain, with some jurors, is the defendant to suffer.

Is it chargeable to the members of another profession—to the lawyers? There may be some men in the profession of law, also, who, driven by the sheer necessity of their circumstances—by their extreme poverty, or who, without any such apology, with only loose notions of right and wrong, encourage and undertake such suits—such are the men who hang about the Tombs of New York, and who may be found, more or less, in every town—but the speaker has reason to believe that honorable and intelligent lawyers seldom countenance these prosecutions. That eminent jurist of the State of New York, Joshua Spencer, has told Dr. Hamilton, that for himself he does not think that he ever commenced a suit of this character, although he has been

frequently retained as counsel, and he believes his brethren, generally, look upon these complaints with suspicion and refuse to meddle with them.

Where, then, must we look for an answer to the question, why are these prosecutions against surgeons so frequent? Let the gentlemen be assured, the causes are to be found in the *very imperfections of our art, and in our own unwillingness to admit these imperfections.* Surgeons have claimed too much, and it cannot certainly be expected that the world will demand of them less than they claim for themselves. Again and again surgeons have said that a fracture of the femur might be generally made to unite without any shortening, while the fact is not so. Malgaigne, who is eminently an honest man, says, to make this bone unite in an adult person, where the fracture is sufficiently oblique to prevent the ends from supporting each other, is "simply impossible" (*simplement impossible*).

Let the profession be wiser in the future and acknowledge that they cannot perform impossibilities.

Amputation of the Thigh in Civil and Military Practice.—The Comparative Success of Secondary Amputations. By RICHARD MCSHERRY, M.D., of Baltimore.—The great fatality which attends upon amputation of the thigh after gun shot wounds is evidenced by the fact, that, during the campaign in Mexico, under Gen. Scott, there were no recoveries, so far as Dr. McSherry could learn, after the operation. This mortality is not peculiar to our country, as Mr. Ribes examined four thousand invalid soldiers, among all of whom he did not find one single instance of injury of the femur by shot, nor one who had undergone amputation of the thigh. Malgaigne was equally unfortunate with all his cases during the Polish campaign. In civil life, the case is widely different. The statistical tables, published by Dr. Norris, state that during a period of ten years, of sixteen amputations of the thigh, performed in the Pennsylvania Hospital, fourteen recovered, and but two died. The two fatal cases were primary amputations, after fracture of the thigh and compound and comminuted fracture of the leg, respectively. Of the fourteen successful cases, seven were fractures (one ununited fracture of thigh), one tumor on the knee, and six caries of knee-joint. These results are favorable, Dr. McS. thinks, to secondary amputations.

In the Parisian hospitals, there were, in ten years, forty-four amputations of the thigh. Of these, thirty-four died, and ten recovered. All of these, however, were amputations after *traumatic* lesions. A comparison of these results exhibits, Dr. McSherry observes, that patients who undergo great operations, in full robust health, are more liable to perish than those who are subjected to them for chronic disease. There is abundant proof, also, that delay *is* advantageous. Dupuytren, in 1830, treated fourteen cases of fracture of the thigh *without* amputation; of these six recovered and eight died. Malgaigne reports five cases treated by himself, *without* amputation, of whom two recovered and three died. These results, compared with those in the same hospitals after amputation (see ante), show that the

chances of life were greatest where the operation was not only deferred, but foregone altogether. Dr. McSherry considers that these facts show that the rule that the thigh must be amputated immediately upon fracture of the femur by shot, is a bad one, inasmuch as it requires certain destruction of the limb, without adding appreciably to the chances of ultimate recovery. When there is thorough disorganization of the limb from injury, the case, of course, is different. The *exception*, however, should not be made the *rule*.—*American Jour. of Med. Science.*

Remarks on Acute Glossitis. By Israel Moses, M.D., Assistant Surgeon U. S. A.—In the *Medical Times*, for June, Dr. Moses reports four cases of this affection. Upon these cases, he makes the following remarks:—It will be seen from the above history, that glossitis usually commences with the ordinary symptoms of an inflammatory disease—with pain and rapid tumefaction of the tongue, difficult deglutition, great dyspnœa, and soon followed, if no relief be afforded, by all the symptoms of congestion of the brain and lungs. The tongue, at first red, soon becomes dry and thickly coated with yellow, rapidly increases in size, so as to occupy the entire cavity of the mouth, and even protrude between the teeth, making it impossible for the patient to articulate, or swallow. There is a constant flow of saliva from the mouth. The progress of glossitis is generally rapid, occupying from twelve hours to five or six days, and terminates either in death, resolution, abscess, or gangrene, all which terminations are seen in the history of our four cases. So rapid a termination as in the one fatal case, is a very rare occurrence, and only happens in constitutions broken down, by intemperance or disease. The *treatment* of the disease in a healthy subject is simple, and the remedies must be early and actively employed. General and local depletion carried to a considerable extent, with free purgation, nauseating doses of tart. ant., with hot baths, complete the round of treatment. Two or three deep incisions into the tongue from the base to its apex, is the best mode of local depletion; care being taken to avoid the ranine arteries. M. de la Malle, in the Mem. de l'Acad. de Chirurgie, gives several instances of the advantage of incisions; and Camerarius has recorded a case, in which the patient was rescued from impending death by this operation.

Job. a Meckœn, a Dutch surgeon, who lived in the sixteenth century, adopted this practice on several occasions with the most complete success; and occasional cases of the success of this treatment are scattered through the European journals. In broken-down constitutions, like that of case IV., remedies must be used with caution, though rarely attended with success; the disease rapidly terminating in gangrene, and death. The operation of tracheotomy is occasionally required where the respiration becomes extremely difficult, and has been performed with success in a case recorded by Mr. Bell. The above case was published some years ago; and I proposed making more extended remarks upon the disease, but I find I have already perhaps exceeded the limits which I might expect to be accorded in your journal.

MISCELLANEA.

A New German Medical Society.—We are pleased to learn that a new German Medical and Surgical Society has been organized at the University Medical College, in this city, for the purpose of cultivating medical science, and promoting the interest of the profession at large.

The utility of such associations in exciting a more general interest, and in enlisting individual enterprise for the advancement of science, needs no comment; and it is quite natural that the German practitioners amongst us should avail themselves of the advantages of scientific co-operation. There are also specific reasons for the organization of such Societies,—the difference of the languages which prevents many German physicians from realizing the full benefit of similar American Medical Societies. Again, it enables them to remain in constant connection and acquaintance with their own medical literature, which we consider most laudable. The present number of its members is about forty, with the prospect of rapid increase. Its constitution is framed on a most liberal basis, scientific qualifications and moral integrity being the only requirements for obtaining membership. In reference to its internal organization, the English plan has been preferred, so as to lay all minor business into the hands of Committees, leaving the time for scientific transactions unimpaired.

In order to encourage scientific research, the Society offers to publish, at its own expense, all papers read, provided the scientific committee has deemed it qualified for that distinction. The following is the list of officers:—

President, Dr. Schermer; Vice-President, Dr. Tellkampf; First Secretary, Dr. Kammerer; Second Secretary, Dr. Jacobs; Treasurer, Dr. Brunninghauser.

The Jews' Hospital.—A new hospital has been added to the list of *Institutions* already in existence in this city; we refer to the *Jews' Hospital*, so called—having been planned and erected by the munificence and voluntary contributions of members of the Hebrew faith. The hospital is situated in 28th street, between 7th and 8th Avs., and can accommodate from 100 to 150 patients. It is built with all modern improvements, being excellently ventilated,—with high rooms—hot air furnaces, and every convenience in the way of water and closet accommodations desirable. The house was opened on the 5th of June, for the reception of patients, and numerous applications have already been made. The following is the Medical Staff:

Resident and Attending Physician: Dr. Mark Blumenthal;

Attending Surgeons: Drs. Israel Moses, Th. P. Markoe and Alex. B. Mott;

Consulting Physicians: Drs. C. R. Gilman, W. Detmold, Wm. B. McCready, and W. Maxwell;

Consulting Surgeons: Drs. Valentine Mott, Willard Parker.

Asylum for Inebriates.—The Commissioners appointed by the Legislature of the State of New York to organize this institution

and receive subscriptions to its capital stock, thus state the object of this enterprise in a recent report:—"The object of this institution is to provide an asylum for the poor and destitute inebriate, where his physical and moral condition will be alike the care of the physician and the philanthropist, and where his labor may be rendered productive and of service to his family. With the asylum there will be connected work shops, in which each patient, as soon as his condition will permit, will be regularly employed—thus making the asylum a self-supporting institution. It will be seen that the community will thus be relieved of the burden of maintaining inebriates in almshouses and prisons; who will be separated from the society of those incarcerated for public crimes, and placed where their inebriety will be treated as a *disease*, and where no efforts will be wanting to produce in them a thorough reformation; and where an income from their labor will be secured to their families, who otherwise would be left to penury and suffering. To carry out successfully the great aim of the institution, $50,000 must be raised; this being the amount of Capital Stock required by the charter. This amount, which can be increased when necessary, is divided into shares of $10 each. Any person wishing to subscribe to the Capital Stock, can send his name with the amount he will take to any one of the Directors."

The Directors design to lease a building temporarily and enter at once upon the work for which the Charter was granted. We regard this undertaking as one of the most benevolent of the age, and it is gratifying to see it patronized by the State.

Women's Hospital in New York.—Since our last issue this charitable institution has been publicly inaugurated. The special object of this charity is to afford accommodation and treatment for a class of poor women not otherwise provided for in our city. The list of officers and managers of this Hospital embraces the names of some of the most prominent among the benevolent, enterprising, and respectable ladies of our city. The medical board of the institution consists of the following: J. Marion Sims, M.D., *Attending Surgeon;* Alexander H. Stevens, M.D., Valentine Mott, M.D.; *Consulting Surgeons;* Edward Delafield, M.D., John W. Francis, M.D., *Consulting Physicians.*

Marine Hospital. — Elisha Harris, M.D., of this city, entered upon his duties as Physician-in-Chief to this important hospital, on the 28th of June, by appointment of the Governor and Senate of the State. Dr. Harris is well known to our readers, by his contributions to the pages of this Journal, as an able scientific and practical writer. His appointment, based upon professional merit, reflects creditably upon the State Administration.

Ohio State Medical Society—Patents.—At the last Annual Meeting of this Society, held at Zanesville on the 5th, 6th, and 7th ultimo, the Society very promptly, and with much unanimity, repealed the resolution offered by Dr. Grant at its annual session in 1854. As the

knowledge of the passage of the resolution has passed far beyond the local bounds of the Society, we subjoin the resolution rescinding the same, prefacing them only with the remark, that our readers and the profession generally will rejoice with this demonstration of the fact, that there is sufficient conservatism in its ranks to stay the truant wanderings of *young physic*. The following are the resolutions:

Resolved, That the resolution offered by Dr. Grant, (a member of this Society, and not at this, or at that time, a practitioner of medicine,) at the last session of this Society, which says, "that it is not derogatory to medical dignity, or inconsistent with medical honor, for medical gentlemen to take out a patent right for surgical or medical instruments," was offered at a time when many members of the Society had left for their homes, and was not, therefore, the sense of this Society.

Resolved, also, That said resolution is in direct opposition to the code of Medical Ethics adopted by the Society, and, therefore, be it further

Resolved, That said resolution offered by Dr. Grant, and adopted by this Society be, and is hereby, rescinded.

College of Physicians and Surgeons.—We are gratified to learn that this College have purchased an eligible site for a new edifice, at the corner of Fourth avenue and Twenty-third street. The building is to be a model of its kind, and will be ready for occupation at the usual season of commencing the winter course of lectures.

TO READERS AND CORRESPONDENTS.

☞ We are under obligations to Prof. F. H. Hamilton, of Buffalo, N. Y., for the privilege of presenting our readers with the Monograph of Mr. Amussat, of Paris, *On the Treatment of Hemorrhoids*, illustrated by the original French plates. The Monograph and stereotyped plates were transmitted to Prof. Hamilton on account of his excellent translation two or three years since of Amussat's work on *Water in Surgery*.

☞ We are compelled to lay over several original communications, a review of Meigs and Holmes' works on puerperal fever, bibliographical notices, &c., &c.

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